MISSOURI
CHILD FATALITY REVIEW PROGRAM
ANNUAL REPORT 1995

Multi-disciplinary
Trainers/Investigators of Child Abuse

December 1996

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MISSOURI DEPARTMENT OF SOCIAL SERVICES
DIVISION OF FAMILY SERVICES

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December, 1996

Dear Friends:

Enclosed is a copy of the 1995 Annual Report for the Missouri Child Fatality Review Program (CFRP). Four years into the program, we are satisfied that we are more accurately identifying the causes of child deaths; still, many children die unnecessarily.

We must also remember that for every child who dies, many more sustain non-fatal, accidental and deliberately inflicted injuries. The child fatality review panels operating in every Missouri county are as concerned about protecting the living as they are in more accurately determining how children die. Education and prevention will ensure a safer environment for all Missouri children and families.

Much of what has been gained over the past four years is the result of multidisciplinary coordination and cooperation. Much of what remains to be accomplished involves breaking down the latent barriers to information-sharing and interdisciplinary team work.

We are confident that Missouri child protection professionals will respond to these critical challenges. Please join us in our efforts.

Sincerely,

Carmen K. Schulze
Director

Department of Social Services
Mission Statement

To maintain or improve the quality of life for the people of the state of Missouri by providing the best possible services to the public, with respect, responsiveness and accountability, which will enable individuals and families to better fulfill their potential.

Child Fatality Review Program
Mission Statement

To promote more accurate identification and reporting of childhood fatalities, through local child fatality review panels, which will enable development of prevention strategies to address identified trends and patterns of risk, and improve coordination of services for the children and families of the state of Missouri.

Table of Contents

MISSOURI CHILD FATALITY REVIEW PROGRAM (CFRP)

BACKGROUND

In 1989 and 1990, a cooperative study by the Departments of Social Services and Health and the University of Missouri found that a significant number of child deaths (birth through age five) were not being accurately reported. The study revealed the causes of death were also not being adequately investigated or identified. As a result of this study, a task force was appointed in August 1990 by Gary Stangler, Director of the Department of Social Services, to further study child fatalities. The task force made recommendations that became the basis for House Bill 185 (HB 185) which established a statewide county-based system of child fatality review panels. This bill was passed in May 1991 and signed into law by Governor John Ashcroft in June 1991. The law, RSMo 210.192, became effective August 28, 1991, and was implemented on January 1, 1992.

RSMo 210.192 requires that every county in Missouri, 114 counties and the City of St. Louis, establish a multi-disciplinary CFRP panel to examine the deaths of all children, that occur in Missouri, from birth through 14 years of age. (Effective January 1, 1995, the program population was expanded to include children through 17 years of age.) Under CFRP, counties have been grouped into seven regions, with regional coordinators, who live and have primary jobs in the regions they represent. They offer oversight, technical assistance and systemic evaluation to the counties in their region. The State Technical Assistance Team (STAT) assists the regions and individual panels with expert training and investigative assistance. An appointed state panel, whose membership reflects the multi-disciplinary nature of the panel, provides oversight and makes recommendations for change and refinement.

RSMo 210.192 provides a mechanism for the legal exchange of information between cooperating disciplines and agencies. If the child death meets specific criteria, it is referred to the county's CFRP panel. Unlike an inquest, no vote or consensus of opinion is sought at the conclusion of the panel review. This is not an attempt to criminalize all child deaths.

The CFRP panels consist of local community professionals who attempt to identify the cause and circumstances of child deaths by bringing their own expertise and skills to the review. The value of the panel's work is measured by the improvement in the services provided by the individual participating disciplines. The collection and interpretation of resultant findings of a comprehensive review of child fatalities by each county can be used to determine trends, target prevention strategies, identify specific family/community needs or, when appropriate, support criminal justice intervention. The findings of each CFRP panel review are sent to STAT where they become valuable, retrievable statistics linked to birth and death data as well as Child Abuse and Neglect Hotline reports.

While problem identification and resolution can be used for the public's benefit, specific case details are never divulged or discussed beyond review. Reviews are not open to the public. Each panel and its members are advocates for the health and welfare of every child in their community; this includes the reasonable preservation of privacy. Regional in-service training is conducted annually. Individual panel

training, both scheduled and upon county request, is provided as necessary. STAT also makes CFRP-related presentations to professional and community/civic organizations.

Missouri's original law was sound and well-crafted. However, based upon program experience, it has evolved and changed to address the needs of the panel and the mandates of the program.

STATE TECHNICAL ASSISTANCE TEAM

Beginning as an implementation team for the Child Fatality Review Program, STAT is a children's response unit of integrated, managed services. STAT's programs and partnerships enhance community-level child protection while being minimally intrusive to victims, families and others. An organized, coordinated and timely evaluation and investigation of a child's death benefits every level of the investigation process. The Missouri model is based on concurrent panel review versus retrospective review as a means of positively influencing each discipline's mandates. Establishing the importance of immediate concurrent death reviews by the local panels continues to be a challenge.

To address the volume and complexity of child death-related issues in the major urban areas (Jackson County, St. Louis County and St. Louis City), individual urban models were created to address special requirements. While these panels do not have individual meetings for each death, they have information gathering and communication systems that, in fact, make their reviews immediate and concurrent.

Because the demands of the three major urban panels are so great, the Division of Family Services (DFS) provides full-time staffing to support their efforts. The Urban Case Coordinator (UCC) positions were created with the sole purpose of assisting the panels to meet their program objectives. Beyond offering staff assistance to the panels, the UCC coordinates community services and programs to benefit children and families and to reduce initial and repeat fatalities in the highest risk settings. This follow-up and follow-through approach encourages the integration and coordination of services from the entire spectrum of community agencies.

Beyond the fatality and sexual abuse programs, STAT is perceived by many as an "omni-source" of information for the entire multi-disciplinary community of professionals dealing with child abuse and neglect events. The unit includes seven centralized full-time staff (administrator/chief investigator, technical investigator, four field investigator/trainers, one clerical position) and three "outposted" urban case coordinators. The responsibilities of the unit are described below:

- Implement, support and institutionalize the Child Fatality Review Program (RSMo 210.192 et seq.).

    — Develop and support an efficient and effective delivery system (regional coordinators, urban case coordinators, state child fatality review panel, etc.).

    — Train and maintain 115 county-based child fatality review panels.

— Provide services and assistance to the panels and multi-disciplinary panel members when requested.

— Collect information and data to identify patterns and risks to children.

— Encourage communities, organizations and agencies to develop deterrent and prevention strategies to reduce injuries and child fatalities.

- Organize and develop multi-disciplinary teams to investigate serious sexual abuse involving children (HB 1370, RSMo 660.520, 210.110 et seq.).

— Support the development of county-based child sexual abuse investigative teams and provide training as requested.

— Provide expertise and direct assistance in cases meeting criteria for involvement when requested.

- Be an accessible and responsive children's events informational resource (24 hours a day, via 800 number, pagers, on-call investigators) to the entire investigative community (DFS, law enforcement, coroner/medical examiners, prosecutors, juvenile court staff, health professionals, etc.).

— Answer specific procedural questions relative to the child fatality and sexual abuse programs.

— Provide referral, technical and informational support concerning all children's events (literature searches, medical consults, prosecution support, etc.) including physical abuse and other incidents outside the fatality and sexual abuse programs. STAT recognizes that many child fatalities are the end result of uninterrupted patterns of abuse and neglect.

— Through awareness programs, training and newsletters, STAT transforms field experience and data into usable information that demonstrates the predictability and preventability of childhood injuries and fatalities.

1995 HIGHLIGHTS

- From the beginning, program compliance has exceeded expectations, and 1995 was no exception. Rarely, does the death of a Missouri child “slip through the cracks.”

- The 1994 legislated expansion of the CFRP age population to include 15 through 17 year old deaths has allowed communities to identify and address fatal risks to adolescents. As expected, this age group had causes of death that were unique and distinct from infants and other children; specifically, most are related in some way to violent acts/events.

- The multi-disciplinary State Panel was redefined to expand their responsibility beyond program oversight. Four areas of risk, Sudden Infant Death Syndrome (SIDS), Shaken/Impact Syndrome, suicides and firearms, are being examined in depth by focus groups comprised of the State Panel membership. Their purpose is to facilitate short and long-term solutions to these serious issues. Preliminary recommendations include:

  — Firearms Recommendation #1: Increase enforcement and prosecution of existing laws and ordinances. Members felt that local law enforcement agencies and prosecutors should be more aggressive in the prosecution of firearm violations.

  — Firearms Recommendation #2: Schools and organizations should increase firearm safety programs, particularly at the grade-school level.

  — Suicide Prevention Recommendation #1: Increase parental and public education concerning observable and identifiable risk factors known to be associated with teen suicide.

  — Suicide Prevention Recommendation #2: Promote good mental health through school and organizational programs.

  — Shaken/Impact Syndrome Recommendation #1: The seriousness of Shaken/Impact Syndrome is not reflected in the data alone. Pathologists and other professionals are convinced that misidentification and under-reporting conceals the actual number of victims. Additional education, awareness and training for professionals and the public would make it possible to more accurately identify such cases.

  — SIDS Recommendation #1: Numerous risk factors (from low birth weight to sleep position) have been associated with SIDS-type deaths. The continuing decline in SIDS deaths is believed to be the result of education and awareness programs (such as the Back to Sleep Campaign) primarily directed at care givers and new parents. These programs should be expanded to include medical and nursing schools, teen babysitting training programs and home economic classes.

- Four STAT investigators received certification as Peace Officer Standards and Training (POST) law enforcement instructors. This enables STAT to provide mandated in-service training to commissioned law enforcement.

- The urban case coordinators in Jackson County, St. Louis City and County continue to address community needs specific to their assigned urban area. This is accomplished via memberships in community organizations and their advocacy for child and family protection programs.

- Within the limits of existing statutory authority, Missouri CFRP cooperates with its neighboring states as well as other states that have similar CFRP programs. At this time, the ability to exchange information nationally has not been clearly addressed. There is a national interest in interstate sharing of child fatality data. Missouri's Child Fatality Review Program supports any effort to adopt uniform data collection techniques that would permit standardized comparison of facts and information.

- Missouri's Child Fatality Review Program now merges program data, Child Abuse and Neglect system data and Vital Records data.

As a "check and balance," criminal justice records should also be merged with the above information. At this time, there is limited criminal record information available as arrest and disposition information is not required by law to be submitted. The Child Fatality Review Program has recommended a legislative change to require submission of these records in a timely manner to the responsible agency.

WHAT NEXT?

STAT will continue to make refinements to its integrated systems of support for the multi-dimensional programs it is responsible for. Such refinements include the need to:

- **Invest resources to facilitate community change.**

  To continue this intensive process of community education and professional skill development, consideration should be given to extending the comprehensive, multi-disciplinary approach used for reviewing children's deaths to other complex social and health problems. STAT and its network is being used to evaluate and provide investigative assistance on complex cases of abuse/neglect.

- **Improve parental/care giver supervision through education and better access to child care services.**

  Far too many children were unsupervised at the time of their deaths. To prevent injuries and deaths because of lack of supervision, parents and care givers need age-appropriate information on the behavior and needs of children, access to child care and parent training.

- **Educate the multi-disciplinary investigative community and CFRP panel members about the importance of accurately recording the level of supervision and circumstances immediately surrounding the death of the child.**

- **Support comunity efforts to closely monitor families at risk of a second preventable death or injury and provide them with appropriate services.**

  Too often, surviving children in the same family or household are at risk for significant morbidity and mortality. In the urban areas, urban case coordinators will be responsible for managing agency and community services and programs to benefit the siblings, their families and the community and to reduce additional fatalities in these high-risk families. The urban case coordinator will integrate agency and community services for immediate intervention and have ongoing contact with the family to ensure positive outcomes.

- **Implement a coordinated strategy aimed at reducing injuries and preventable deaths.**

  It is clear that the data from this program will more accurately define how and why children are dying in Missouri. By designating a member of each child fatality review panel to serve as a "prevention" liaison, STAT will encourage using the data to focus resources on interventions and prevention strategies. Panels will be encouraged to collaborate with hospitals, health departments, schools, social services agencies and community organizations in order to improve the success of programs and projects selected.

- **Continue multi-disciplinary training to encourage coordinated fatality evaluations and investigations.**

  Interaction among panel members enhances outcomes. STAT investigators will continue to target counties who have had few or no child deaths and provide CFRP information and training.

- **Improve the quality of data being collected by local panels.**

  To date, data collection compliance has been exceptional. The quality and completeness of the information provided by panels will continue to be emphasized. STAT will also strive to improve the retrievability of the data and to provide feedback to the local panels.

- **Provide additional training on use of death-scene checklists.**

  The checklists are valuable to the pediatric pathologist in determining an accurate cause of death. Other agencies will likely find the information to be valuable as well. In particular, the data on sleep position is already of interest to organizations such as SIDS Resources. The checklist may also be beneficial to panel members with an investigative responsibility.

- **Educate CFRP panel members about the importance of injury prevention efforts, and continue to address risks and trends identified through data analysis.**

- **Improve and support efforts to develop a standardized "national model" for reviewing children's deaths. It is imperative to develop uniform terms and definitions so all states and programs can realistically compare data and events.**

WHAT CAN YOU DO?

Social workers and other front-line service providers who "make house calls" are presented with opportunities to observe family behaviors and environmental risks each time they interact and spend time in families' homes. As professionals committed to the prevention of child injuries, it is our responsibility to help keep children and families safe.

As child and family advocates, we can intervene without intrusion, when risks to children and families are identified. An opportunity to educate parents and care givers on interventions that could save a child's life should never be missed. When visiting families in their homes, it is recommended that you:

- **Promote back or side sleep position for healthy infants.**

  Researchers have yet to find the answer to what causes SIDS. It appears there is no single cause, but rather, SIDS may be the result of multiple risk factors. Several groups, including the American Academy of Pediatrics and the SIDS Alliance, believe parents can reduce their baby's risk of SIDS by simply placing the infant on its back or side to sleep.

- **Educate parents and care givers about proper sleeping arrangements and soft bedding products.**

  Parents and care givers should be made aware that it is dangerous to sleep with an infant. Infants die from accidental suffocation due to overlying, wedging or rebreathing every year.

  The U.S. Consumer Products Safety Commission has recommended that parents not put infants to sleep on soft bedding, including some products intended for use by infants. Some infants placed on fluffy, plush products such as sheepskins, quilts, comforters and pillows have been found on their stomach (the prone position) with their face, nose and mouth covered by the soft bedding. Such soft products may cause infants to rebreath exhaled air and suffocate.

  Ensure infants are put to sleep in a crib with a firm, flat infant mattress. Cribs should meet safety standards and not contain pillows, toys or other inappropriate materials.

- **Discuss fire safety.**

  Ensure working smoke detectors are installed in the home and that fire escape routes are in place. Family, care givers and babysitters should know how to access emergency services (fire, police, ambulance, etc.).

- **Discuss appropriate disciplinary methods. If others care for the child, ensure they have similar disciplinary techniques.**

  Alternatives to physical punishment include removing privileges, time-outs, and isolating or sending the child to their room. The methods of discipline should be adapted as the child grows older.

- **Discuss age-appropriate behaviors for children and unrealistic expectations of parents.**

  Beginning to toilet train at an inappropriate age causes stress and anxiety for the child and the parent. When children cannot meet unrealistic demands, parents may become abusive to the child. There is no hard and fast rule for when children are developmentally ready to accomplish such activities. Remind parents to be patient and understanding.

- **Discuss the risks associated with shaking an infant.**

  Shaken Baby Syndrome, or more accurately, Shaken/Impact Syndrome, refers to possible brain, spinal and eye trauma resulting from shaking or impacting a baby's head. It is important that parents, child care providers and other care givers understand the serious risks associated with shaking, striking or throwing an infant or young child. The violent whiplash of shaking or the sudden deceleration of being thrown into a crib or bed can cause irreversible or fatal injuries.

- **Discuss supervision.**

  While parents should be encouraged to have time to relax away from their children, babies and some young children cannot take care of themselves and should not be left home alone.

  Even responsible teens need to have "house" rules if they are left unsupervised, especially when identified hazards are present in or around the home (i.e., swimming pool, medications, unsecured guns, etc.).

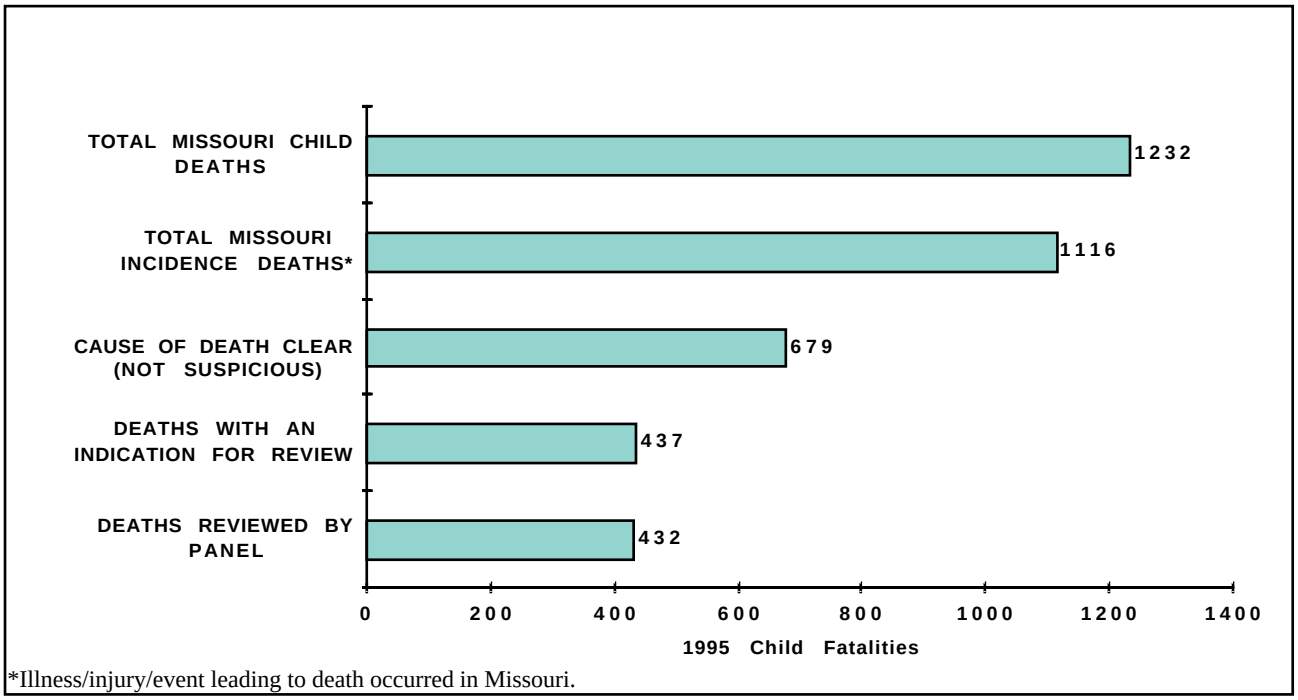
  If parents need to leave the house, even for a minute, encourage them to take their child with them or get a responsible person to watch the child. Another child — even a brother or sister — should not be left to take care of a baby until that child is responsible enough to do so.

Child Fatalities

All Child Fatalities, Birth through Seventeen Years of Age

During 1995, 1,232 children less than 18 years of age died in Missouri (Figure 1). Of those, 91% (1,116) were determined to be Missouri incidence deaths and therefore subject to review (see the glossary for a complete definition). The majority of deaths (679) had a clear, nonsuspicious cause and were not referred for further review. The remaining 437 had an indication for review. Of those, 99% (432) were actually reviewed by panels.

Figure 1. 1995 Child Fatalities



*Illness/injury/event leading to death occurred in Missouri.

Figure 2. Age Distribution of Missouri Incidence Children's Deaths in 1995

Fifty-four percent (599) of all deaths were children less than one year of age (Figure 2).

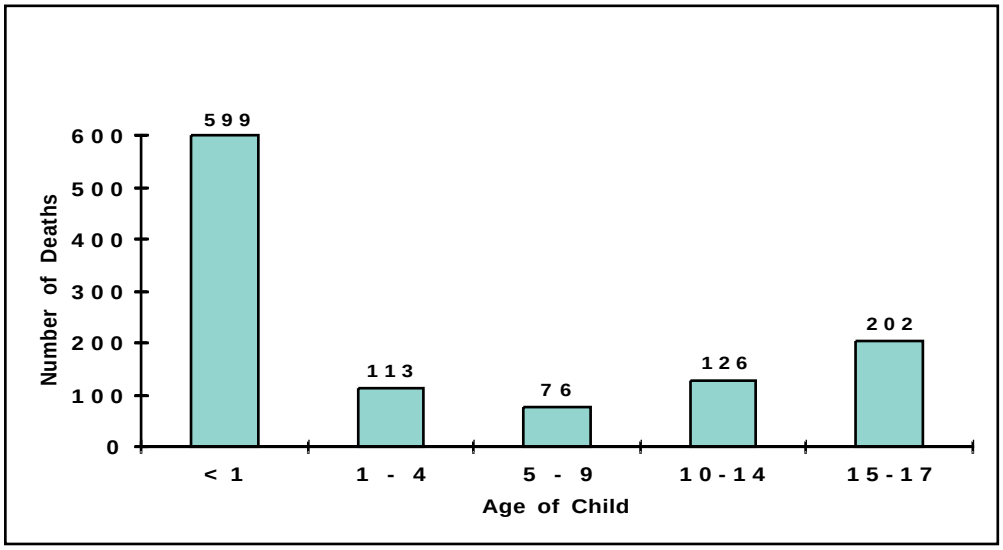


Figure 3. Sex of All Missouri Incidence Child Fatalities in 1995

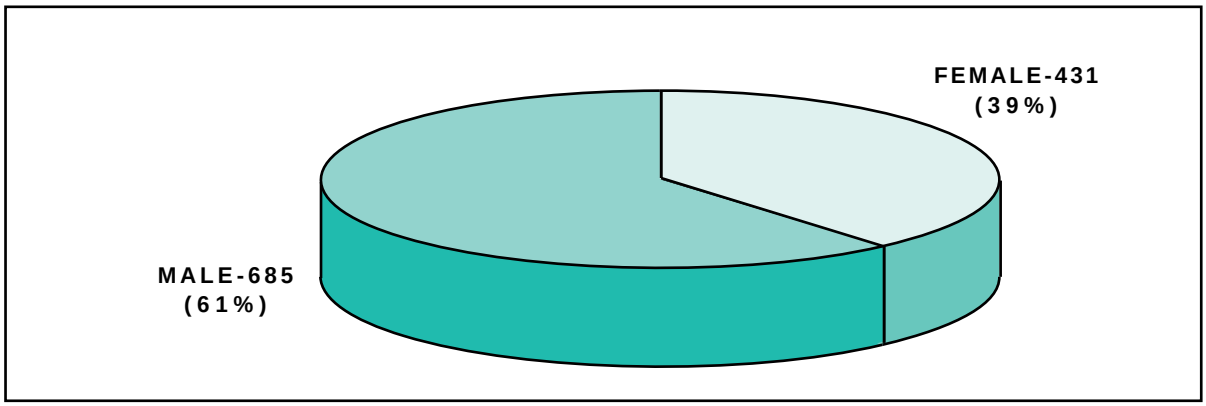
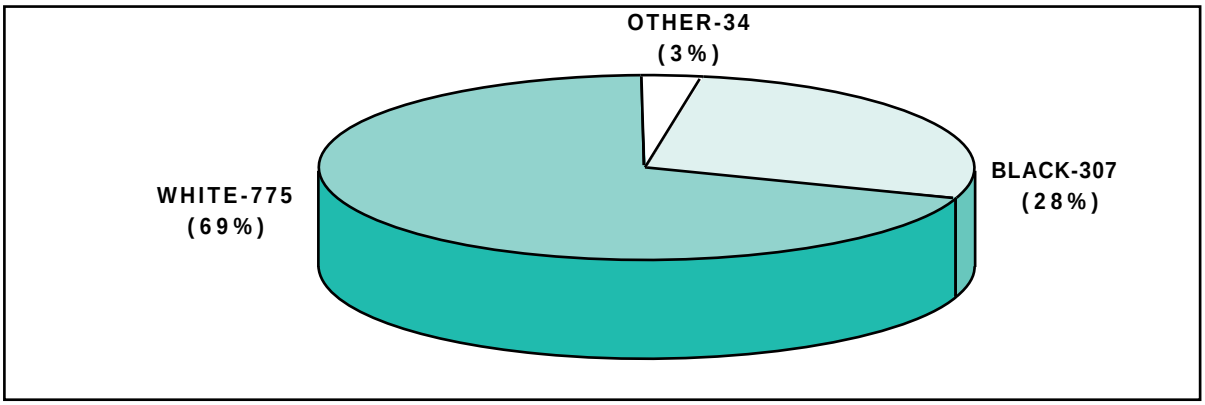


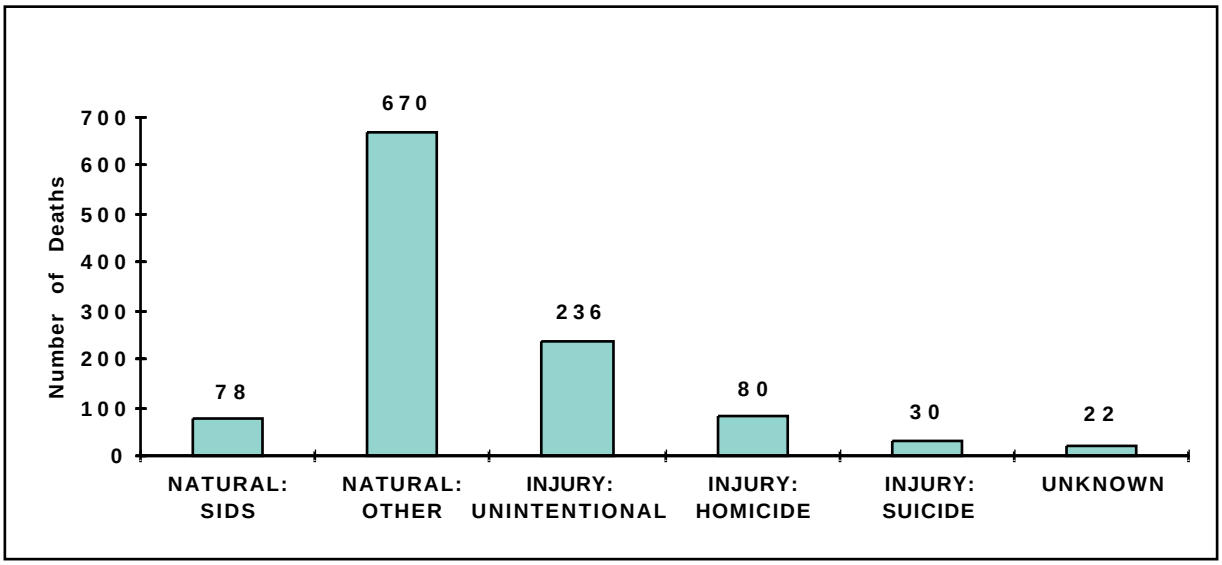
Figure 4. Race of All Missouri Incidence Child Fatalities in 1995



Sixty-one percent of all deaths were male children (Figure 3), 69% were white children and 28% were black children (Figure 4).

Sixty-seven percent (748) of all deaths were the result of natural causes (Figure 5). SIDS was the cause of 78 deaths, representing 10% of natural cause deaths and 7% of all deaths.

Figure 5. Causes of 1995 Missouri Incidence Fatalities (Ages 0-17)



Injuries were the cause of 346 deaths, representing 31% of all Missouri incidence deaths. Sixty-eight percent (236) of injury deaths were unintentional, 23% (80) were homicides and 9% (30) were suicides.

For the first year strangulation/suffocation was the leading cause of injury death among children less than one year of age (14). Another cause of injury deaths among children less than one were homicides (12) (Figure 6).

The leading causes for deaths of all children less than 18 years of age were motor vehicle injuries (150), homicide (80), suicide (30), strangulation/suffocation (25), drowning (21) and fire/burn injuries (15) (Figure 7).

Figure 6. Leading Causes of Injury Deaths for Children Less Than One Year of Age in 1995

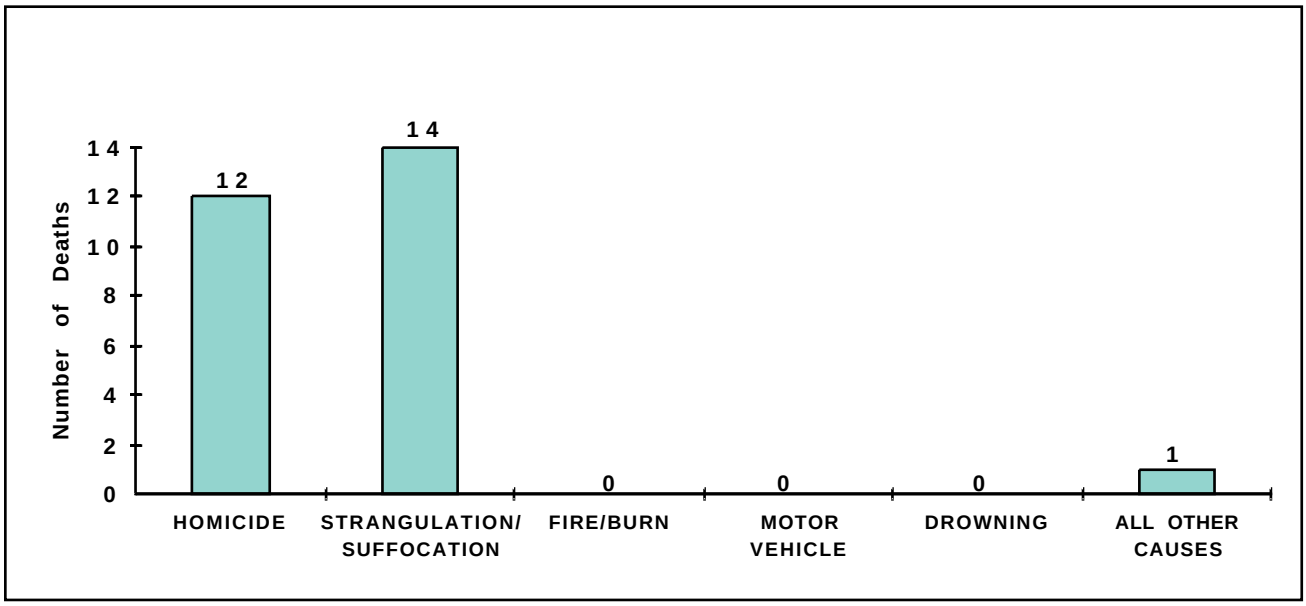
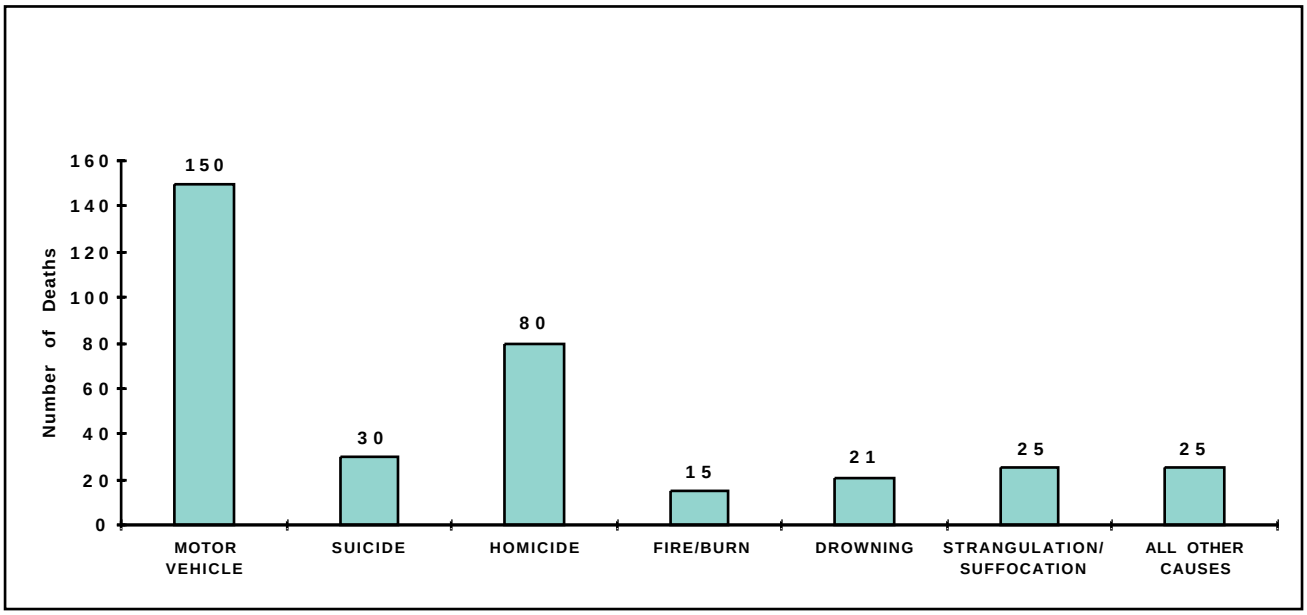


Figure 7. Leading Causes of Injury Deaths for Children Less Than 18 Years of Age in 1995



The SIDS rate (deaths per 1,000 live births) in 1995 was lower than in any of the previous seven years. In 1988, the SIDS rate was 1.8, and rose to 2.0 by 1991. The rate in 1993 was 1.5 and in 1994 was 1.2. In 1995, the SIDS rate declined to 1.1 (Figure 8).

Figure 8. SIDS Rate 1988-1995

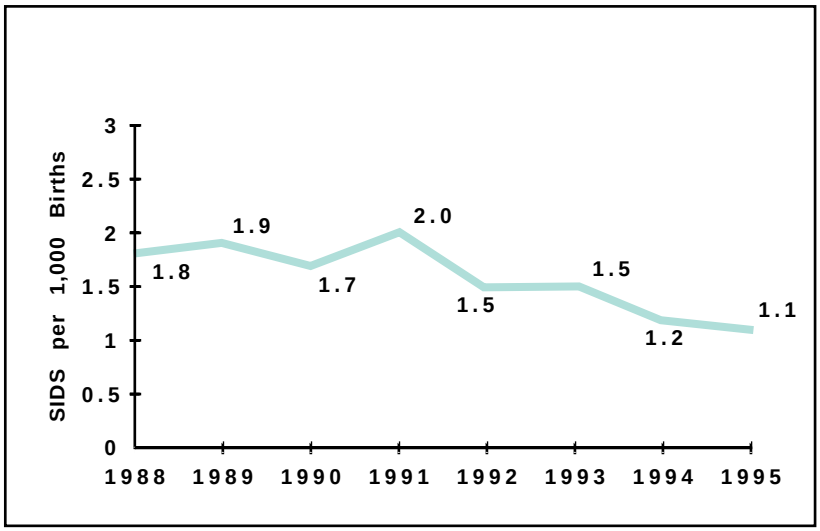
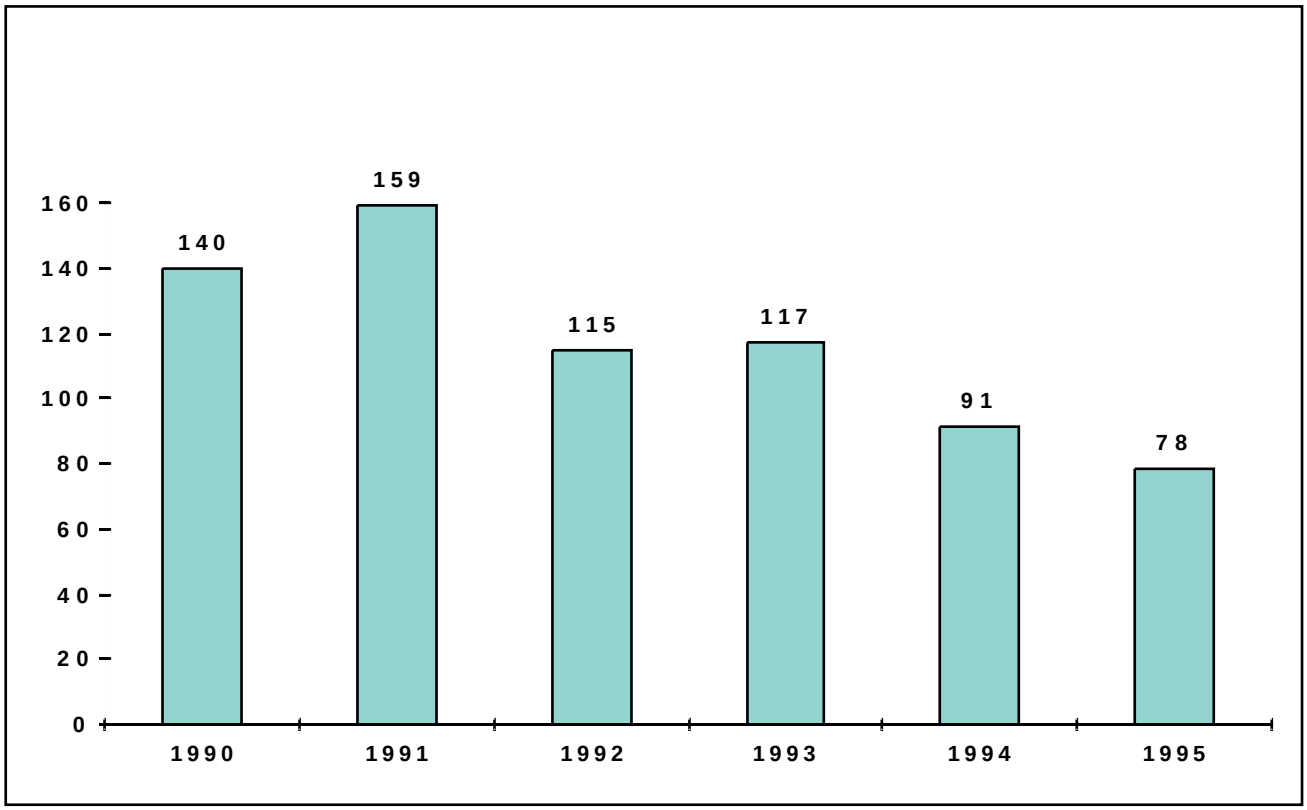


Figure 9. Missouri SIDS Deaths, 1990-1995



In the three year period 1990-1992, the average number of SIDS deaths per year was 138. In the three year period 1993-1995, the average number of SIDS deaths per year was 95, representing a 31% decrease over the three year period (Figure 9).

Medicaid Eligibility

Of the 1,116 Missouri Incidence deaths in 1995, 39% (431) were eligible for Medicaid assistance (Figure 10). Of those children eligible, 60% (259) were male and 57% (249) were white (Figure 11).

Figure 10. Medicaid Eligible Fatalities

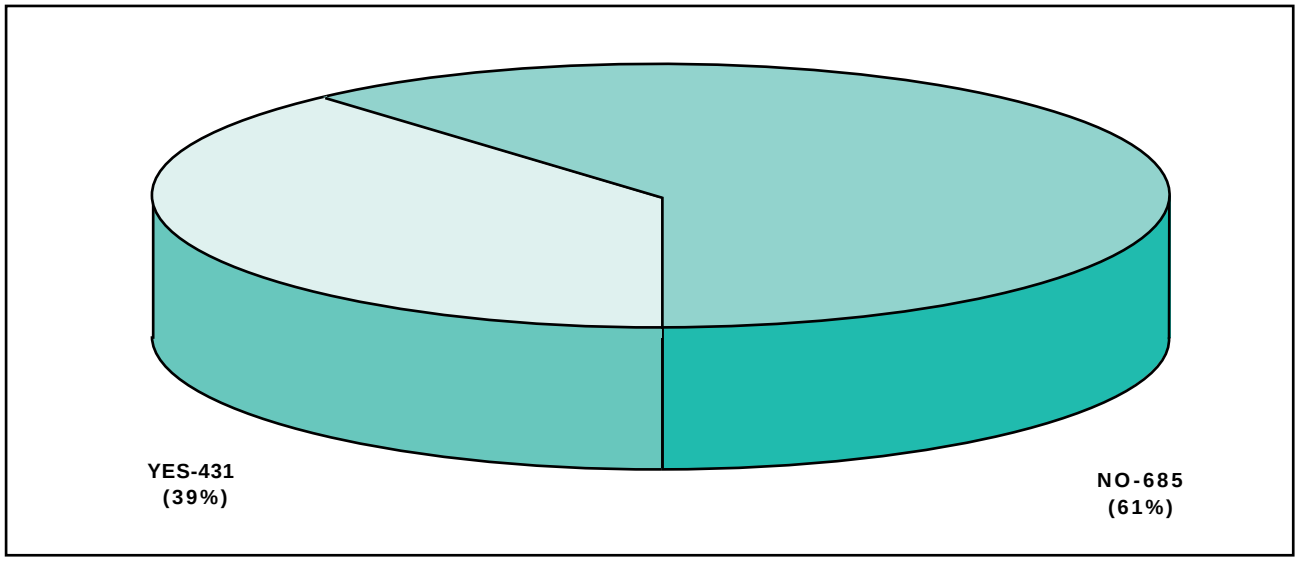
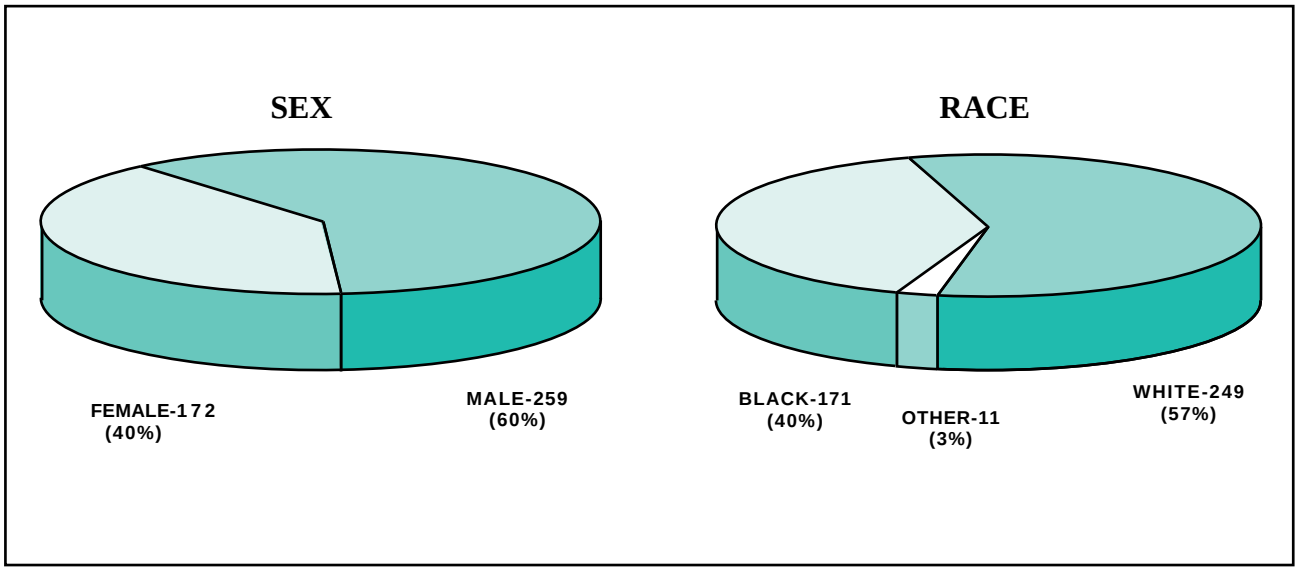


Figure 11. Sex and Race of Medicaid Eligible Fatalities

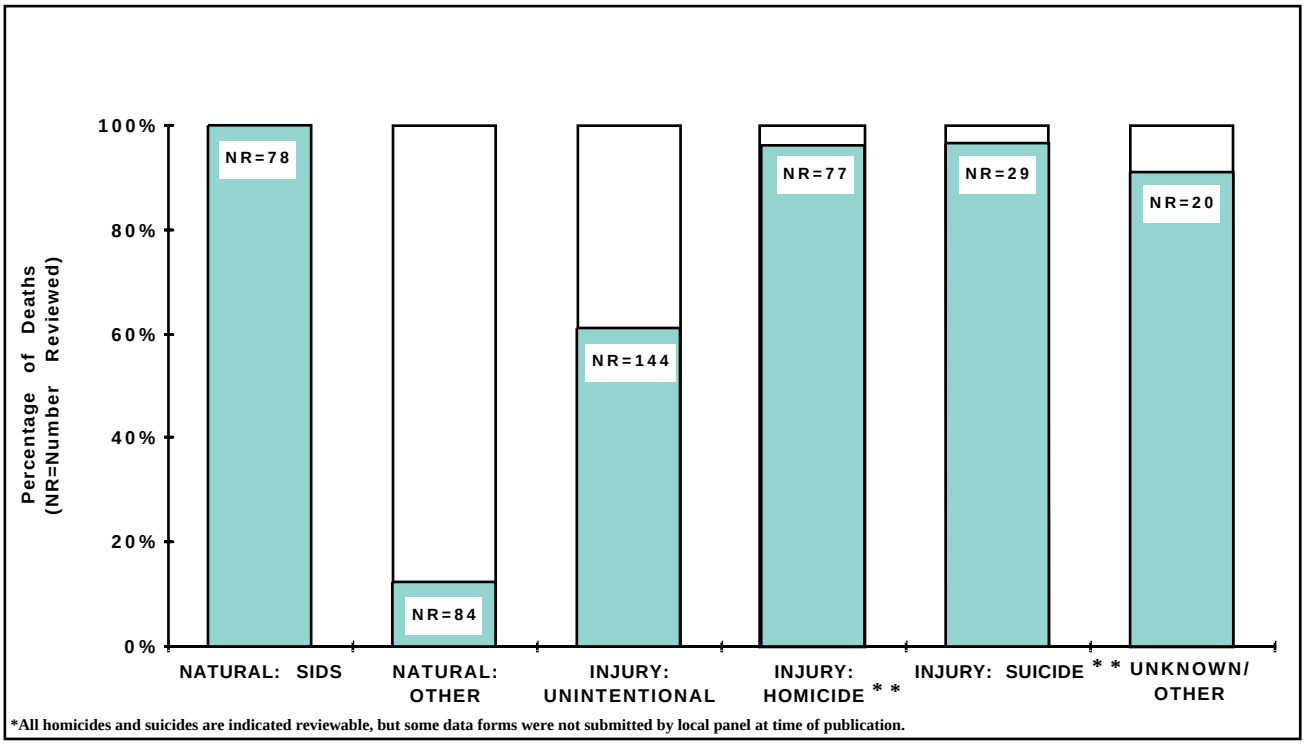


Panel Reviewed Deaths

After the initial investigation of a death, the coroner/medical examiner and the county panel chairperson decide whether the child's death meets the criteria for further review by the panel. These criteria include situations where the cause of death is unclear or the possibility exists that child abuse/neglect was involved. (See Appendix 3 for a complete listing of review criteria.)

The percentage of deaths reviewed by panels varied with the cause of death. (It should be noted that the cause of death may not be determined at the time of review.) As shown in Figure 12, 100% (78) of SIDS deaths were reviewed, as were 13% (84) of other (non-SIDS) natural-cause deaths. Among injury deaths 96% (77) of homicides, 97% (29) of suicides and 61% (144) of unintentional injury deaths were reviewed. Ninety-one percent (20) of deaths with unknown or other causes were also reviewed.

Figure 12. Percentage of Deaths Reviewed by Panels

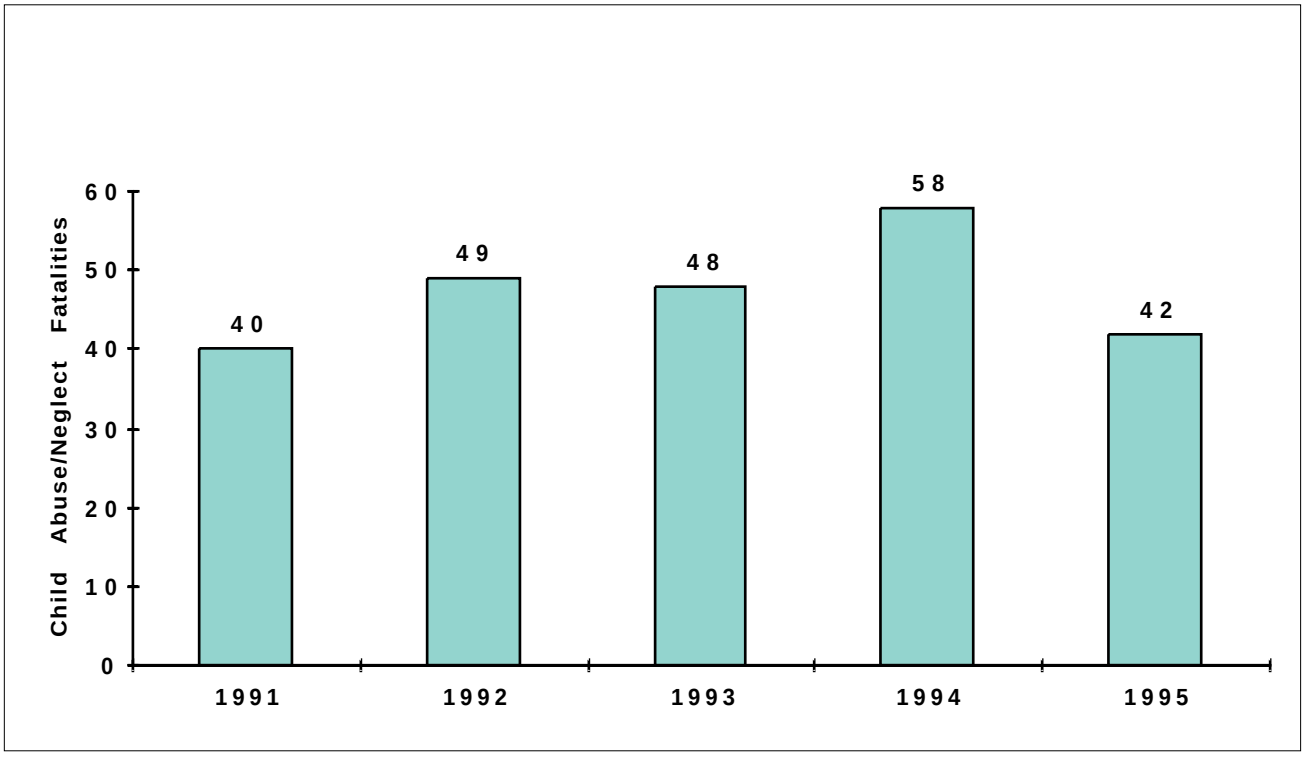


*All homicides and suicides are indicated reviewable, but some data forms were not submitted by local panel at time of publication.

Child Abuse/Neglect Deaths

The number of child abuse/neglect fatalities of children under the age of 18, confirmed through investigation by the Department of Social Services, Division of Family Services, decreased in 1995 from previous years (Figure 13). An average of 49 reported fatalities have been found probable cause during the past four years. This is significantly more than the number of probable cause fatalities found in 1995.

Figure 13. Child Abuse/Neglect Fatalities Confirmed by the Division of Family Services* (Children Under Age 18)



*Numbers confirmed at the time of publication.

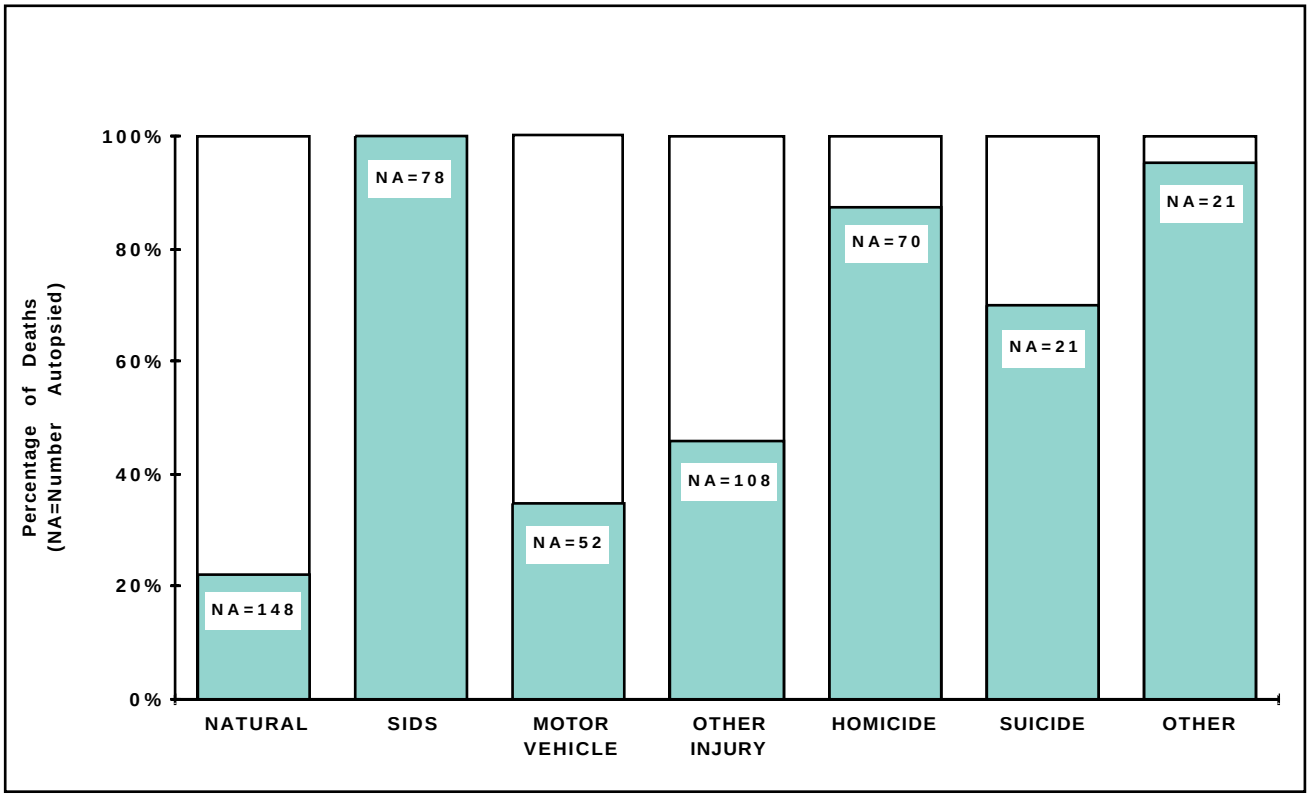
Autopsies

The autopsy is a critical component in accurately determining the cause of death. For example, diagnosing SIDS requires an autopsy to exclude other causes of death such as Shaken/Impact Syndrome. Legislation requires that an autopsy be performed for all children from one week to one year of age who die in a sudden, unexplained manner.

During 1995, autopsies were performed in 45% (498) of all children's deaths and 78% (337) of panel-reviewed deaths. As shown in Figure 14, autopsies were performed in 22% (148) of natural deaths, 100% (78) of SIDS deaths, 35% (52) of motor vehicle deaths, 46% (108) of other unintentional injury deaths, 88% (70) of homicides and 70% (21) of suicides.

State general revenue funds have ensured that children who die will receive autopsies based on the need in each case.

Figure 14. Autopsy Rate for Children's Deaths 1995



SIDS (Sudden Infant Death Syndrome)

SIDS was the cause of 78 deaths

of children less than 1 year of age in 1995,

representing 13% of all deaths in that age group.

- As shown in Figure 15, 71% (55) of SIDS fatalities were children less than five months of age.

- Fifty-five percent (43) of SIDS fatalities were male and 76% (59) were white (Figure 16).

Figure 15. Age Distribution of SIDS Fatalities in 1995

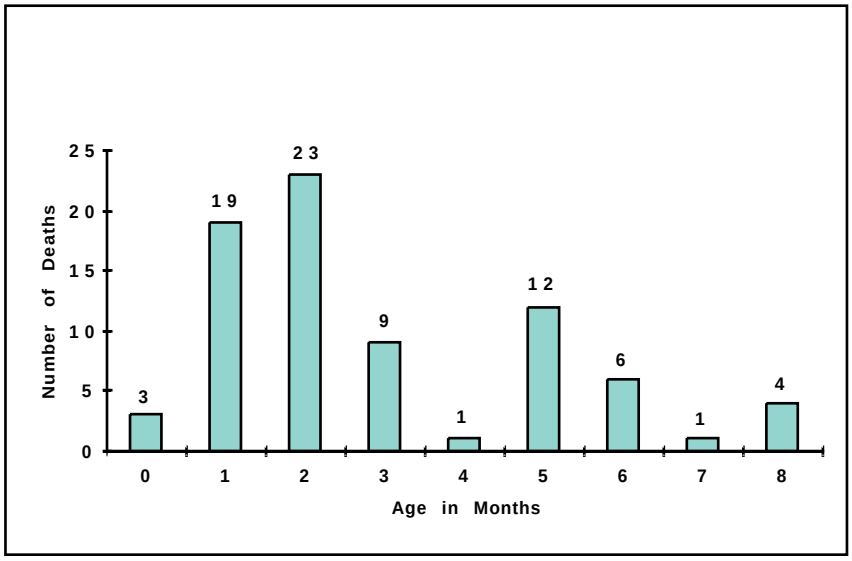
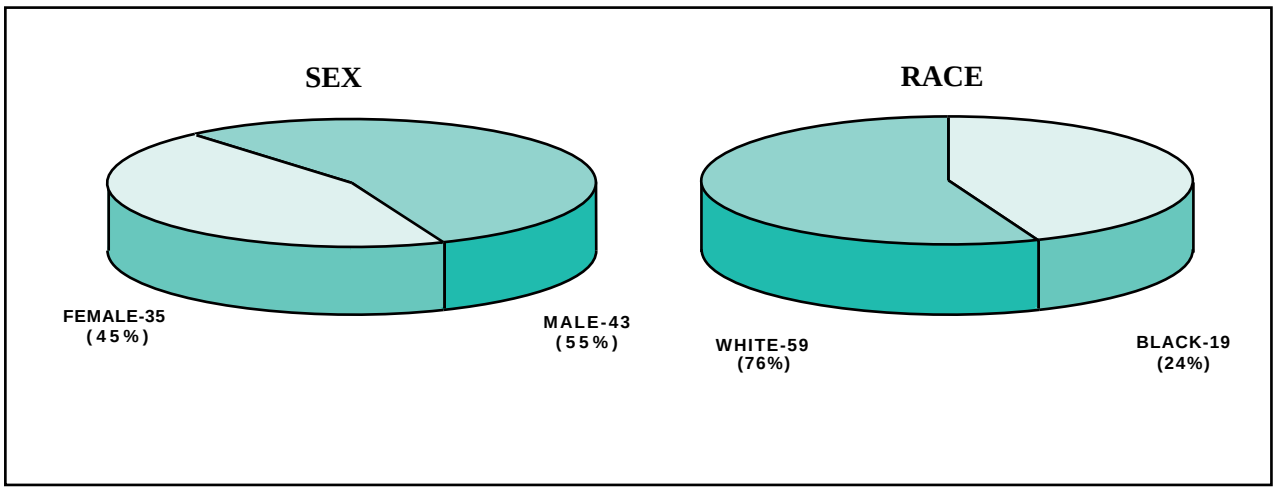
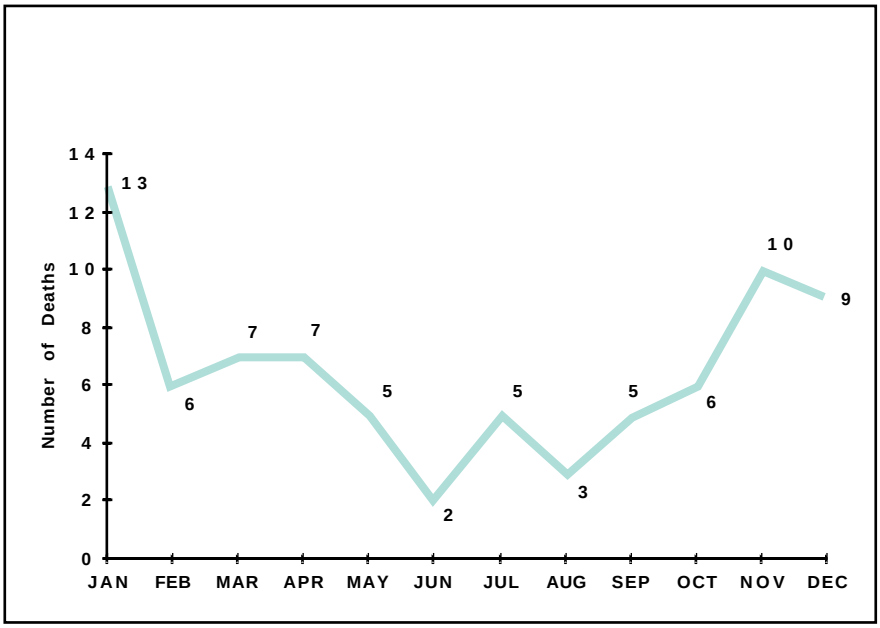


Figure 16. Sex and Race of SIDS Fatalities 1995



SIDS

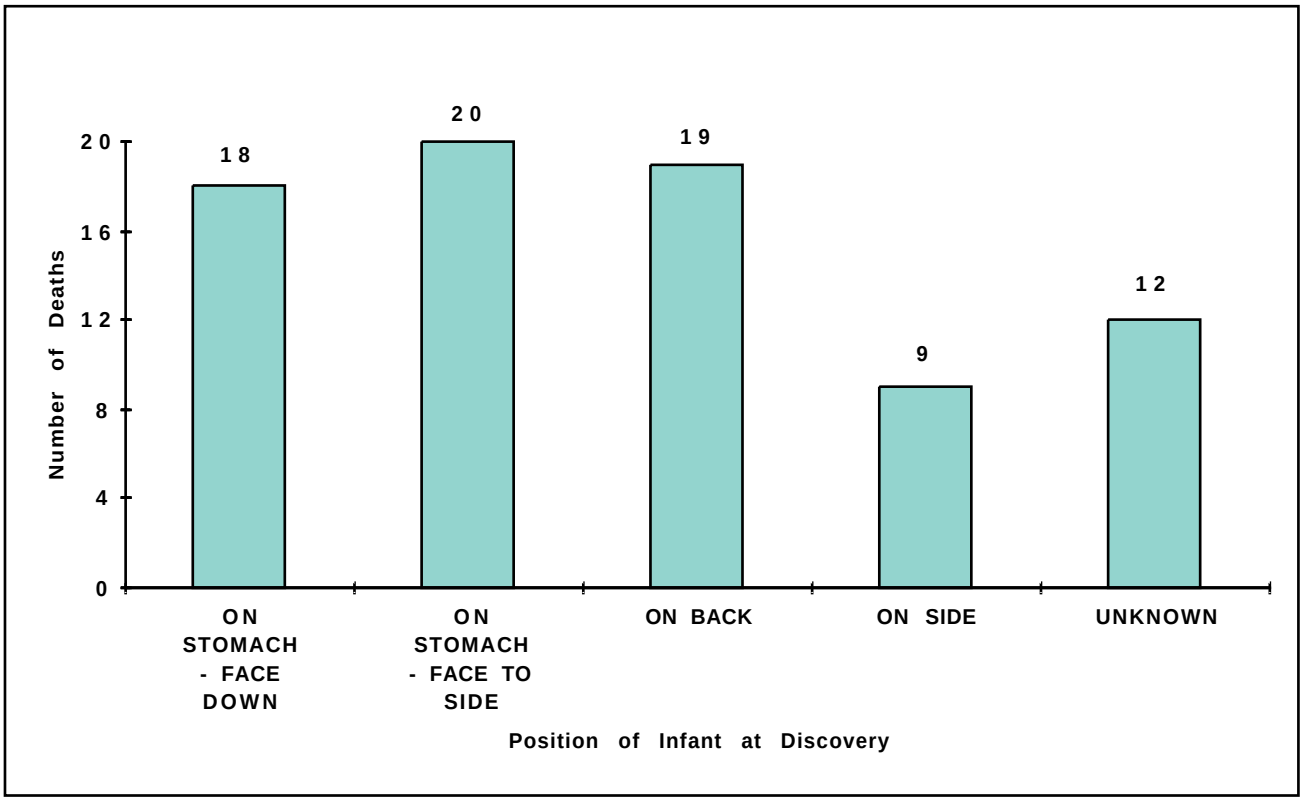
Figure 17. SIDS Fatalities by Month in 1995



• The peak month for SIDS in 1995 was January with 13, followed by November with ten (Figure 17).

• Almost twice as many children died when placed on their stomach as compared to other sleeping positions (Figure 18).

Figure 18. Position of Infant



Homicides

Homicide was the cause of 80 deaths

of children less than 18 years of age in 1995,

representing 23.1% of injury-related deaths.

• As shown in Figure 19, 53% (42) of homicides were children 15 through 17 years of age. The next largest group was one through four year-olds with 16% (13) of the total.

• While black children make up a minority of the overall population, they are over-represented as a majority of the homicide deaths (Figure 20).

Figure 19. Age Distribution of Homicides in 1995

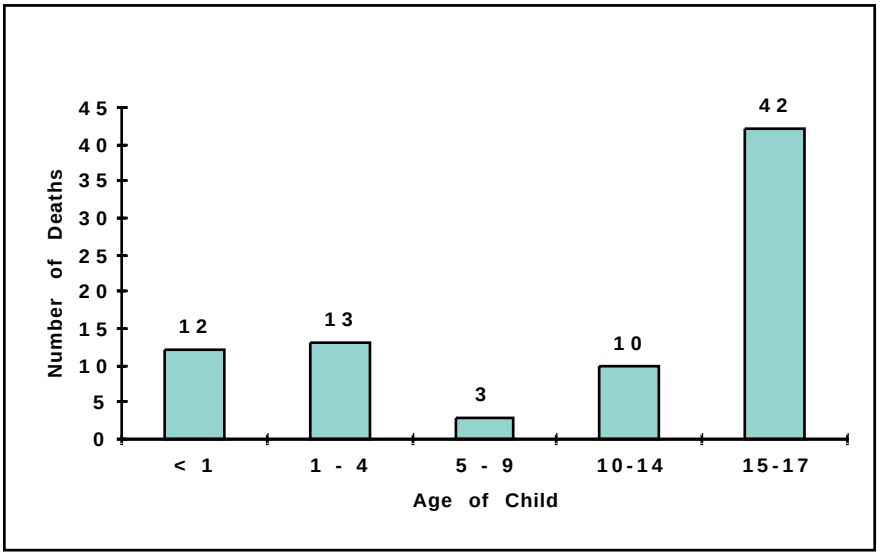
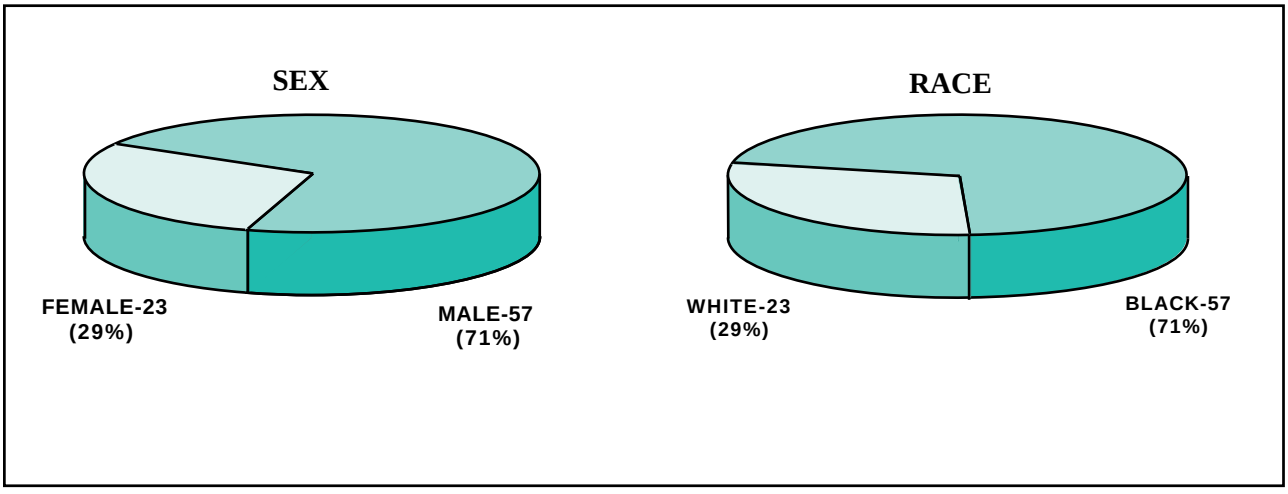
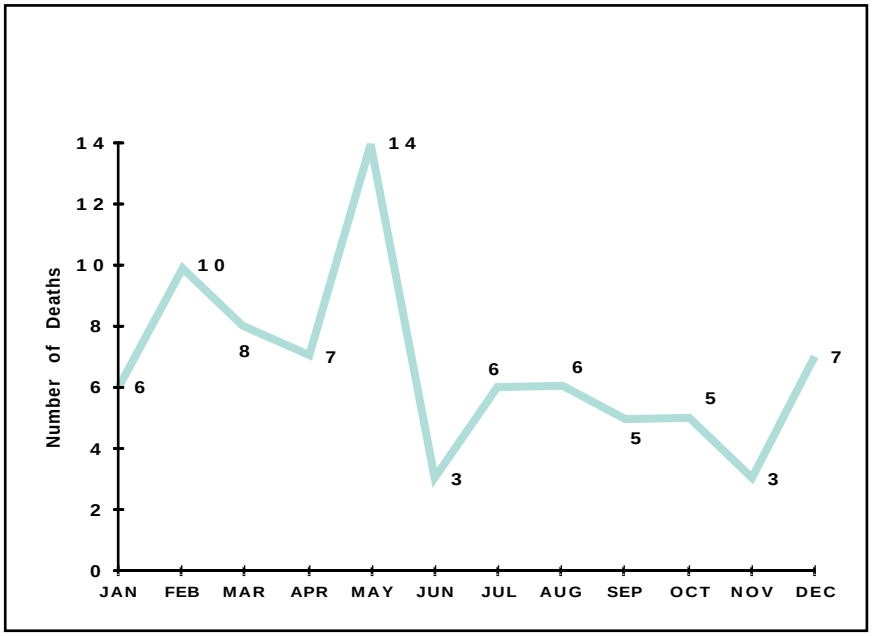


Figure 20. Sex and Race of Homicides in 1995



Homicides

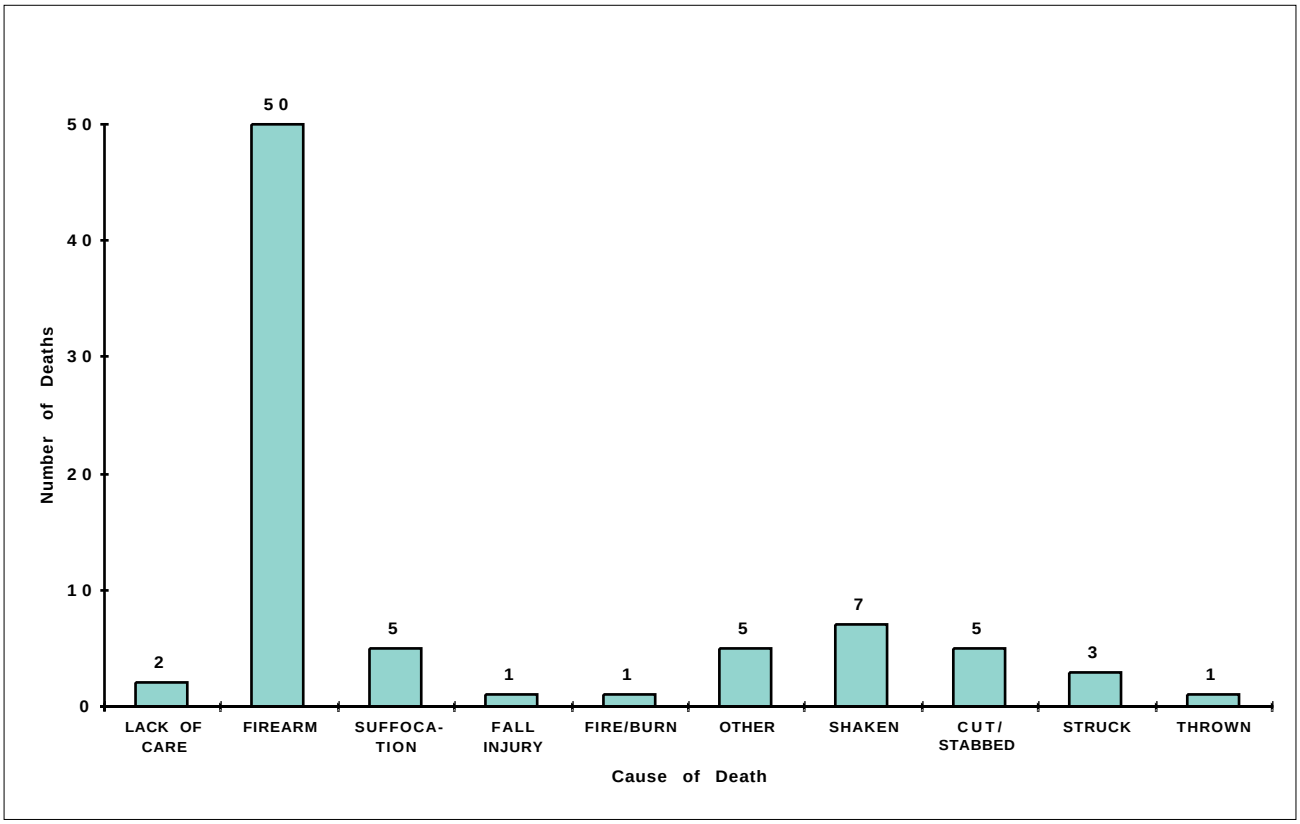
Figure 21. Homicides by Month in 1995



• The peak month for homicides in 1995 was May with 14, followed by February with ten (Figure 21).

• Firearm injuries, followed by Shaken/Impact Syndrome, were the most common known causes of child homicides in 1995 (Figure 22).

Figure 22. Causes of Death in 1995 Homicides



Homicides: Firearm Injuries

Homicide firearm injuries were the cause of 50 deaths of children less than 18 years old in 1995, representing 62.5% of all homicide-related deaths.

- As shown in Figure 23, 78% (39) of homicide firearm deaths were children greater than 14 years of age.

- Eighty-eight percent (44) of homicide firearm deaths were male and 88% (44) were black (Figure 24).

Figure 23. Age Distribution of Homicide Firearm Deaths in 1995

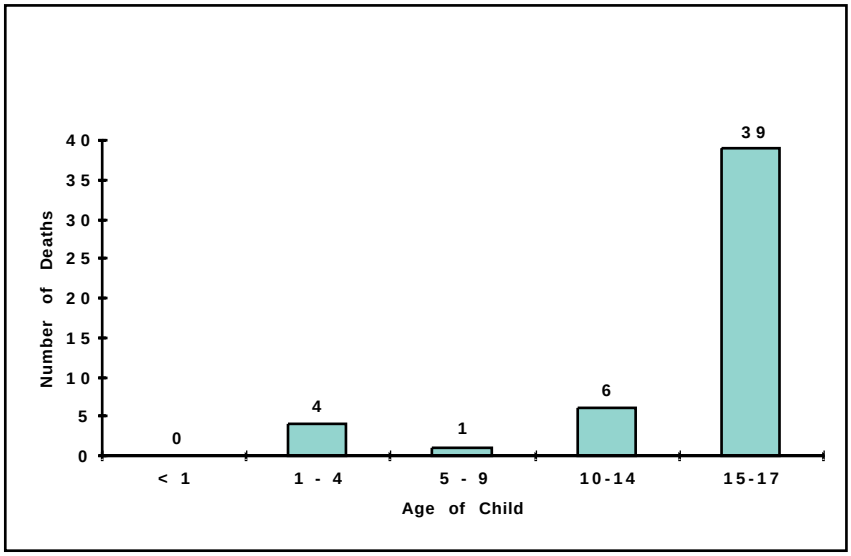
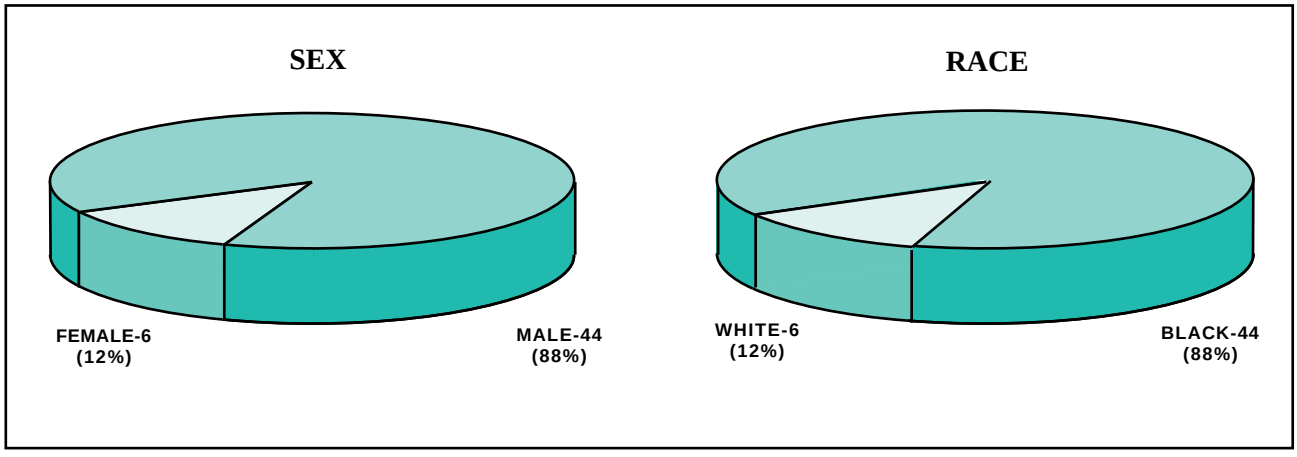
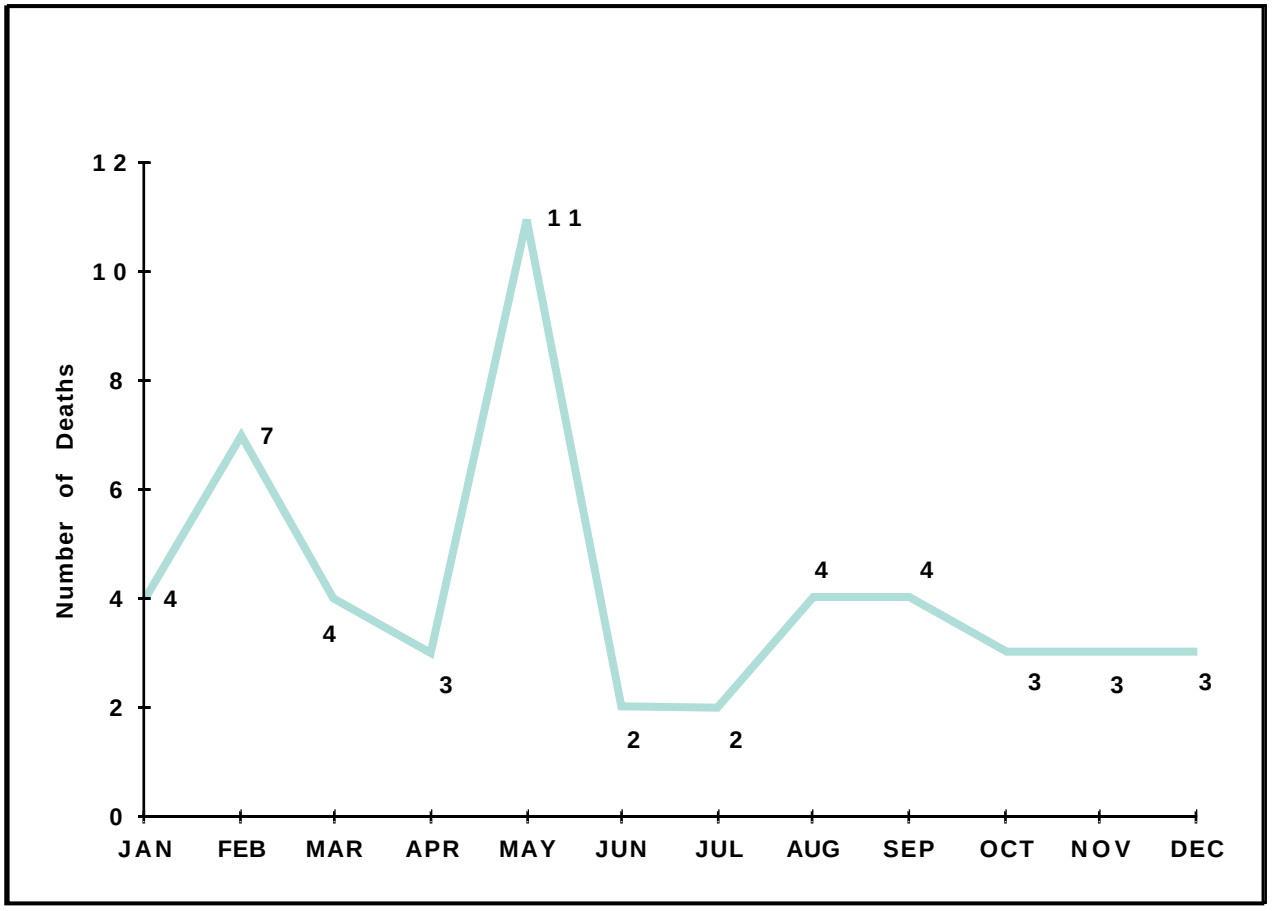


Figure 24. Sex and Race of Homicide Firearm Deaths in 1995



Homicides: Firearm Injuries

Figure 25. Homicide Firearm Deaths by Month in 1995

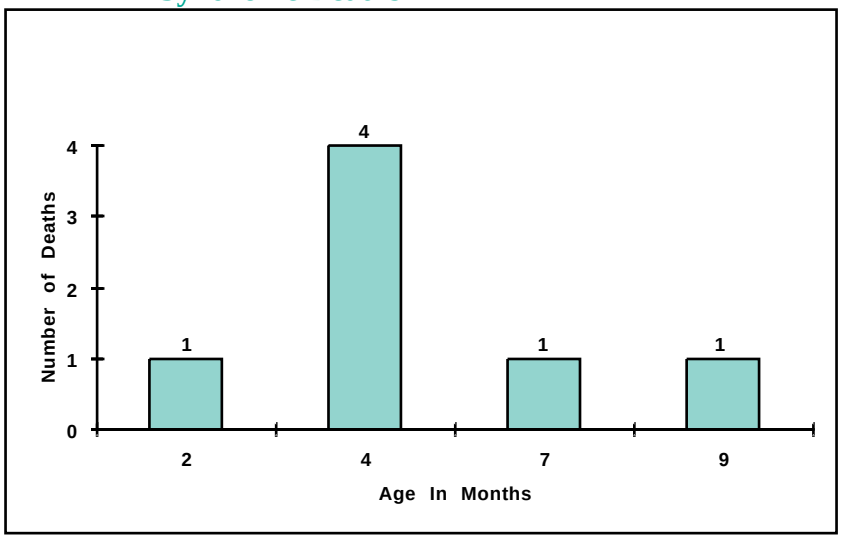


• The peak month for homicide firearm child deaths in 1995 was May with 11, followed by February with seven (Figure 25).

Shaken/Impact Syndrome

Shaken/Impact Syndrome, the second leading cause of all homicide deaths, was the cause of seven deaths of children less than one year old in 1995.

Figure 26. Age Distribution of Shaken/Impact Syndrome Deaths

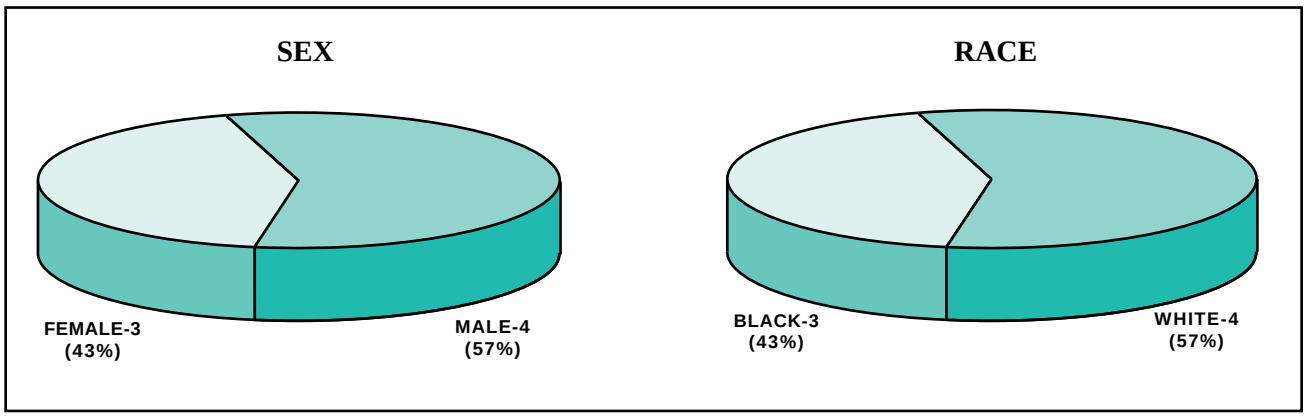


• As shown in Figure 26, 71% (five) of Shaken/Impact Syndrome deaths were children less than five years of age.

• Fifty-seven percent (four) of Shaken/ Impact Syndrome deaths were male and 57% (four) were white (Figure 27).

• Based on program experience there may be a significant number of cases that are under-reported or unrecognized. Moreover, there are also a large number of permanent disabilities directly related to Shaken/Impact Syndrome (i.e.; speech, hearing and vision impairments).

Figure 27. Sex and Race of Shaken/Impact Syndrome Deaths



Suicides

Suicide was the cause of 30 deaths

of children less than 18 years of age in 1995,

representing 8.7% of injury-related deaths.

- As shown in Figure 28, 77% (23) of suicides were children 15 through 17 years of age. The remaining group was ten through 14 year-olds with 23% (seven) of the total.

- Ninety percent of suicides were male and 90% were white (Figure 29).

Figure 28. Age Distribution of Suicides in 1995

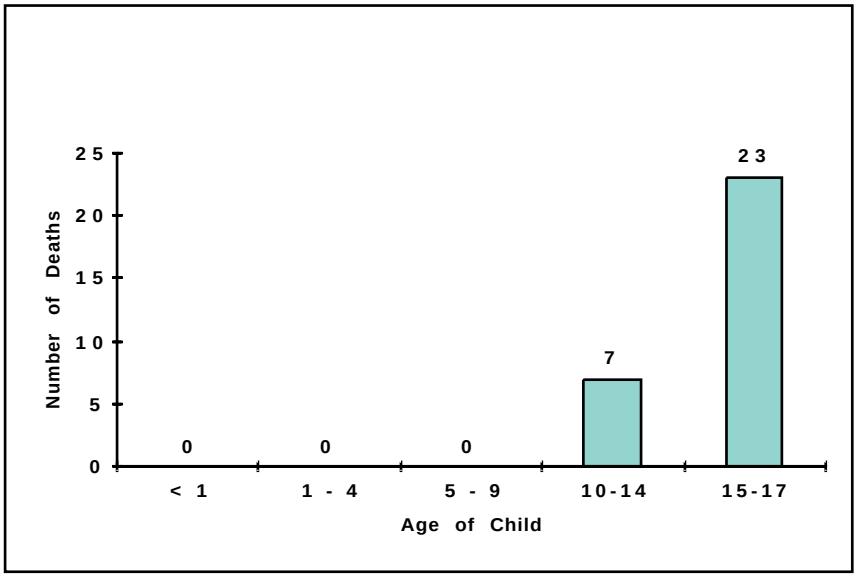
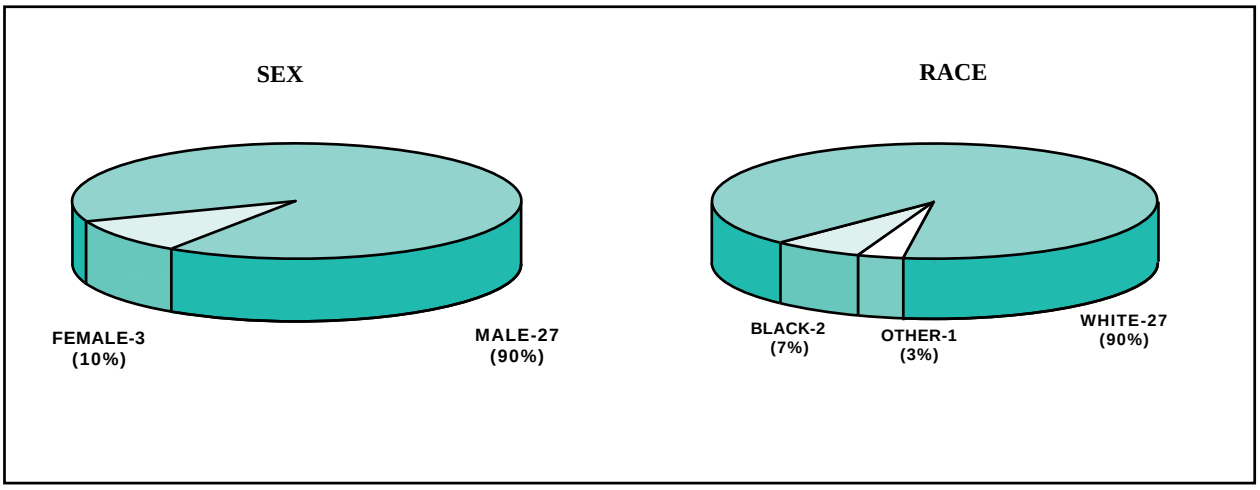
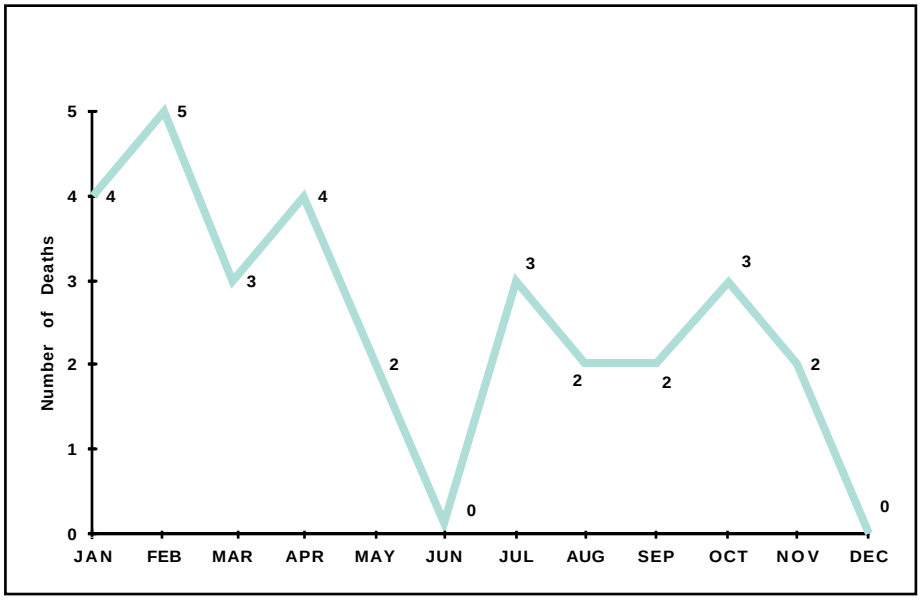


Figure 29. Sex and Race of Suicides in 1995



Suicides

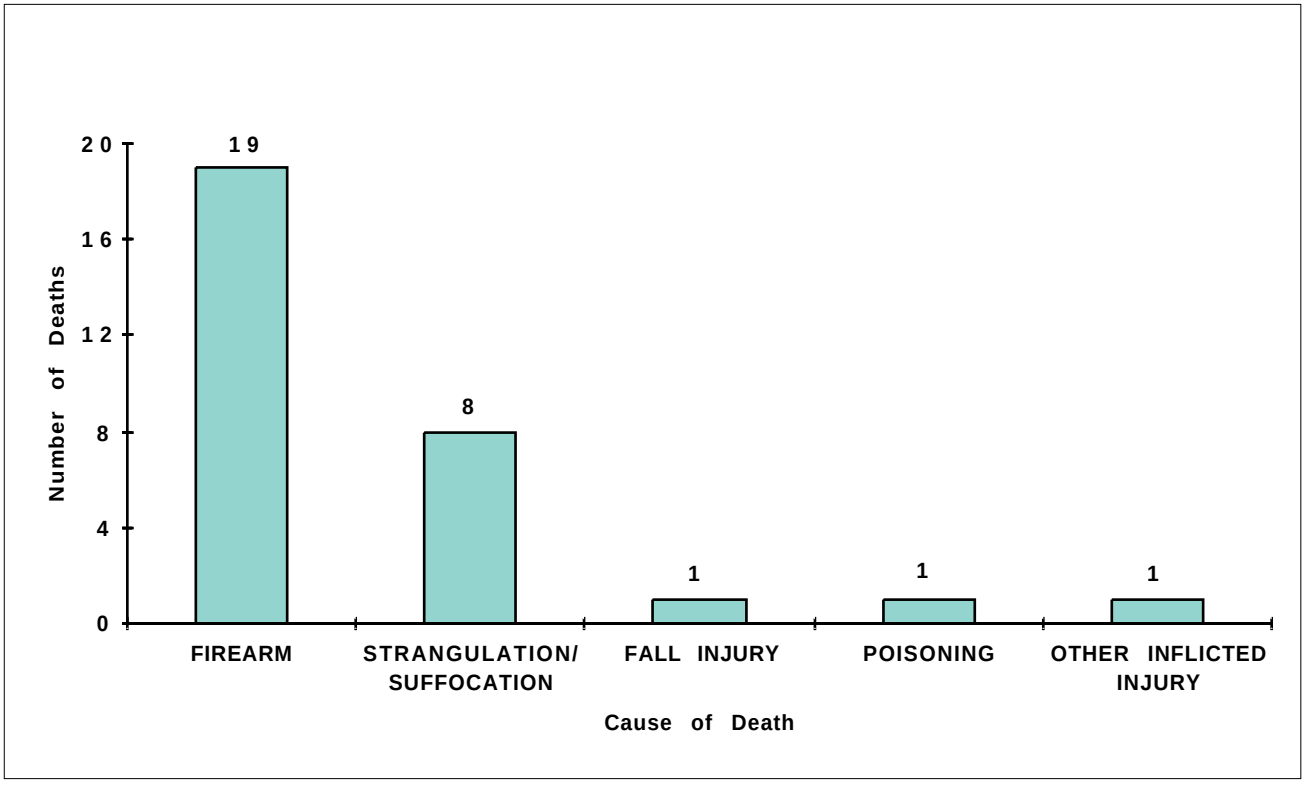
Figure 30. Suicides by Month in 1995



• The peak month for suicides in 1995 was February with five, followed by January and April with four each (Figure 30).

• Firearm and strangulation/suffocation injuries were the most common known causes of child suicides in 1995 (Figure 31).

Figure 31. Causes of Death in 1995 Suicides



Suicides: Firearm Injuries

Suicide firearm injuries were the cause of 19 deaths of children less than 18 years old in 1995, representing 63% of all suicide-related deaths.

- As shown in Figure 32, 84% (16) of suicide firearm deaths were children greater than fourteen years of age.

- Eighty-four percent (16) of firearm deaths were male and 90% (17) were white (Figure 33).

Figure 32. Age Distribution of Suicide Firearm Deaths in 1995

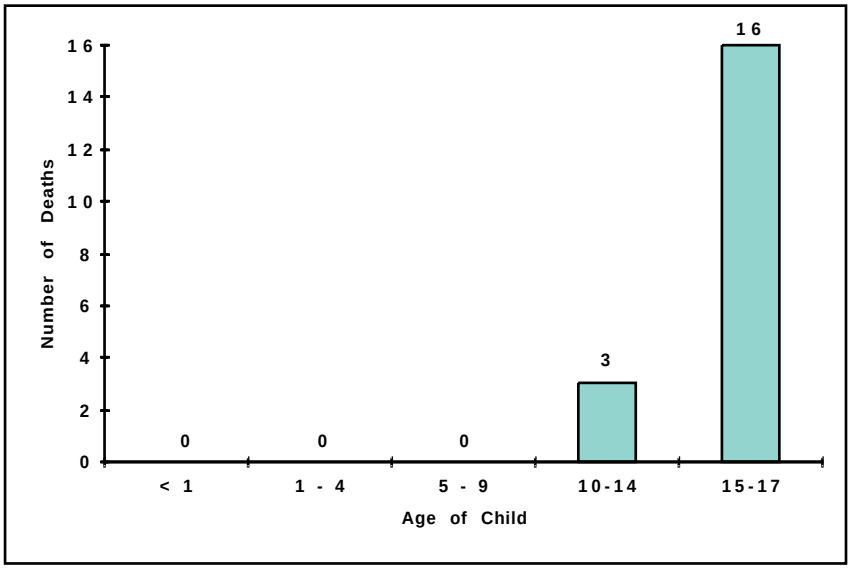
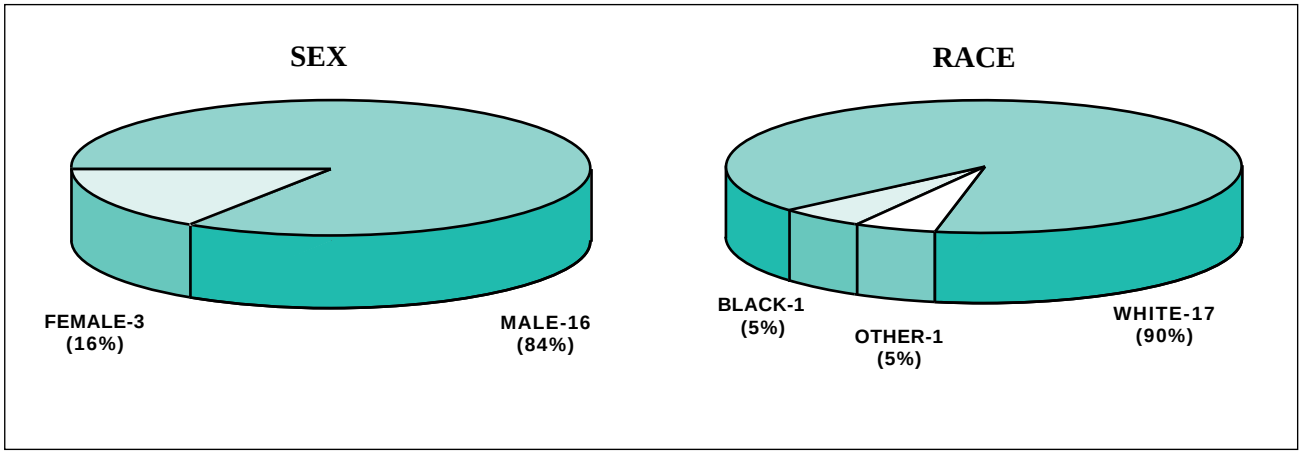
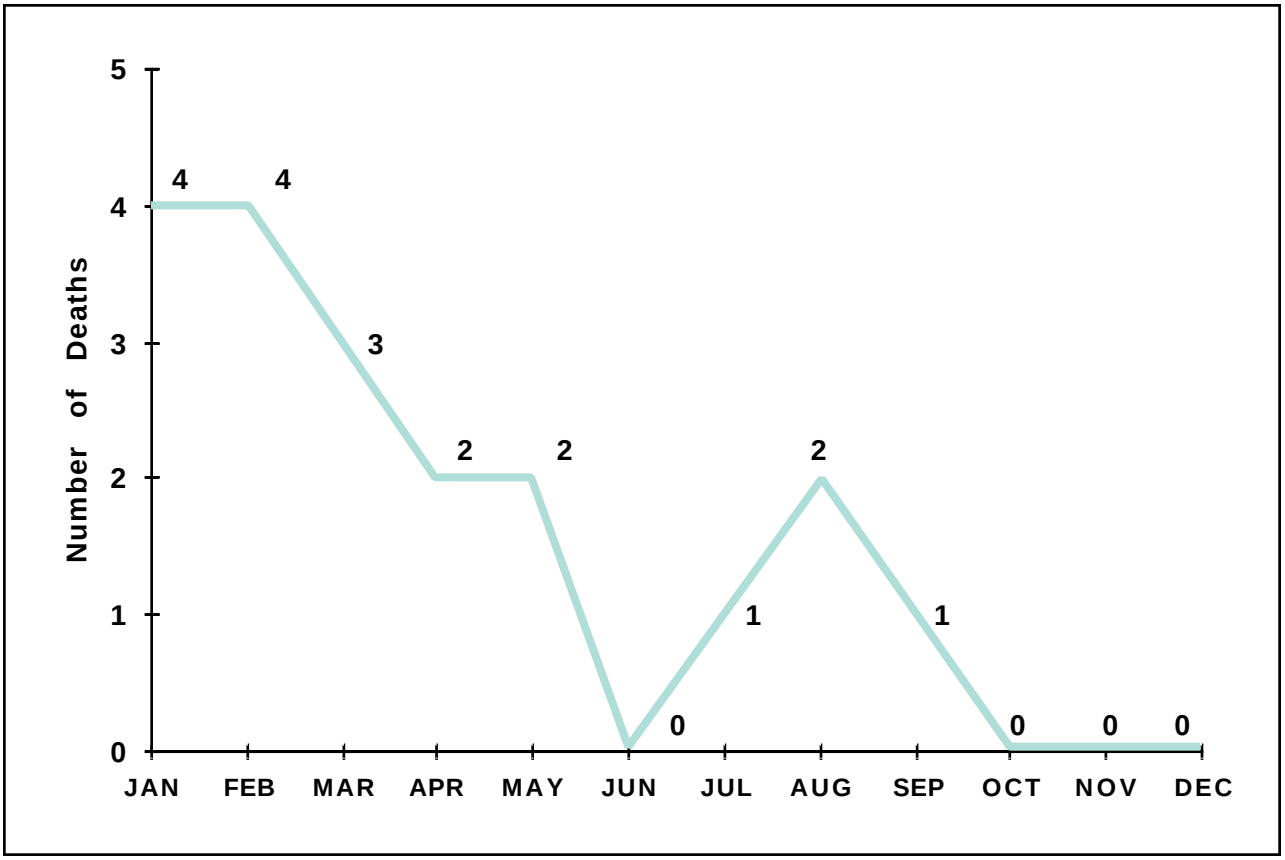


Figure 33. Sex and Race of Suicide Firearm Deaths in 1995



Suicides: Firearm Injuries

Figure 34. Suicide Firearm Deaths by Month in 1995



• The peak months for suicide firearm deaths in 1995 were January and February with four each, followed by March with three (Figure 34).

Drownings

Drowning was the cause of 21 deaths

of children less than 18 years of age in 1995,

representing 6.1% of injury-related deaths.

- As shown in Figure 35, 43% (nine) of drowning deaths were children less than five years of age.

- Eighty-one percent (17) of drowning deaths were male and 86% (18) were white (Figure 36).

Figure 35. Age Distribution of Drowning Deaths in 1995

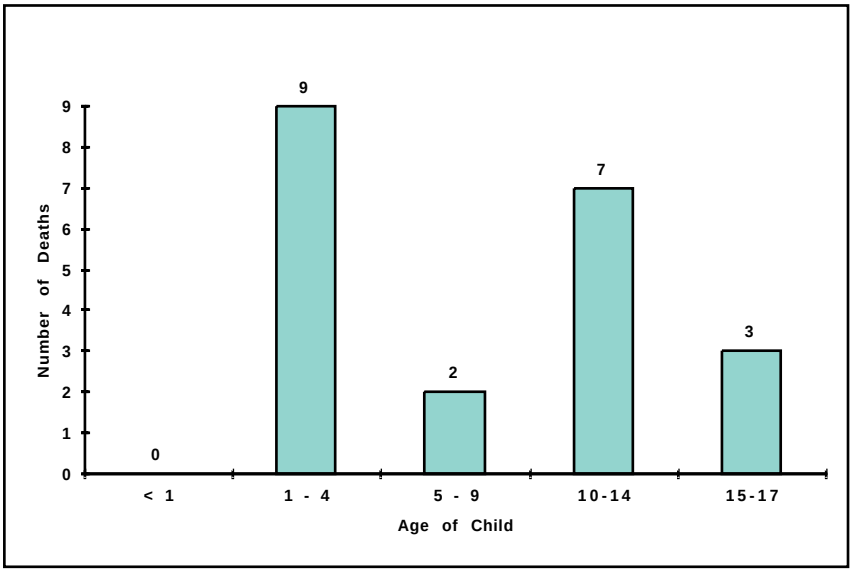
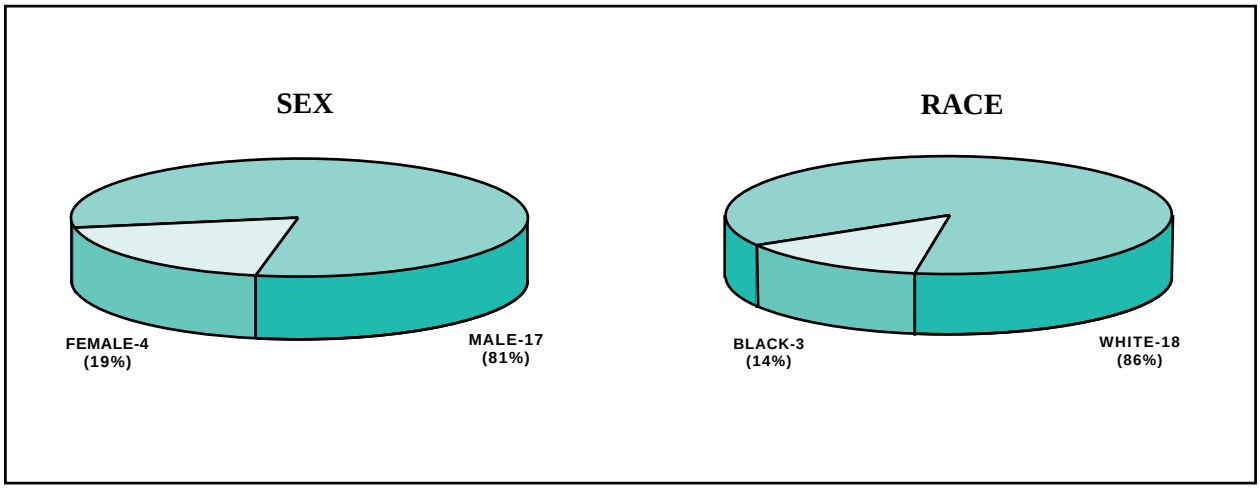
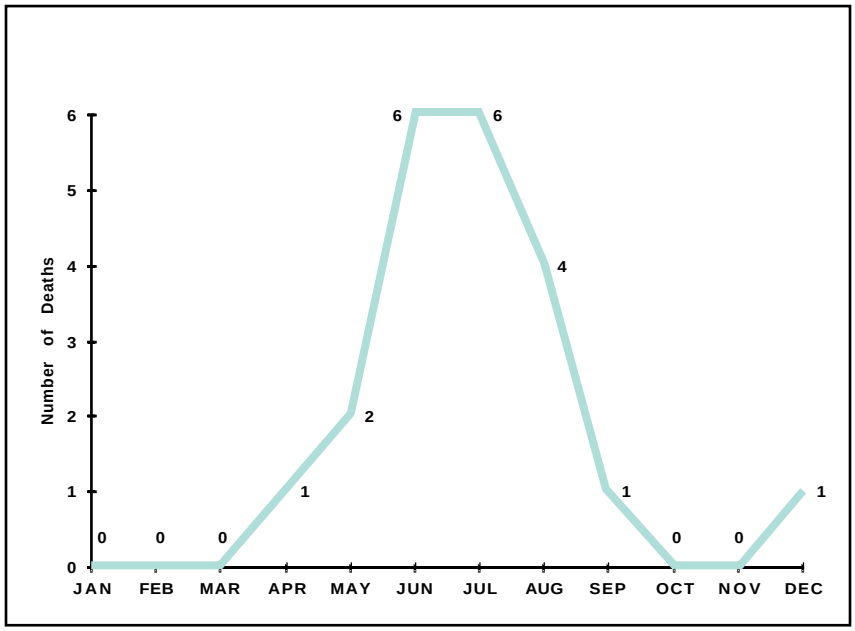


Figure 36. Sex and Race of Drowning Deaths in 1995



Drownings

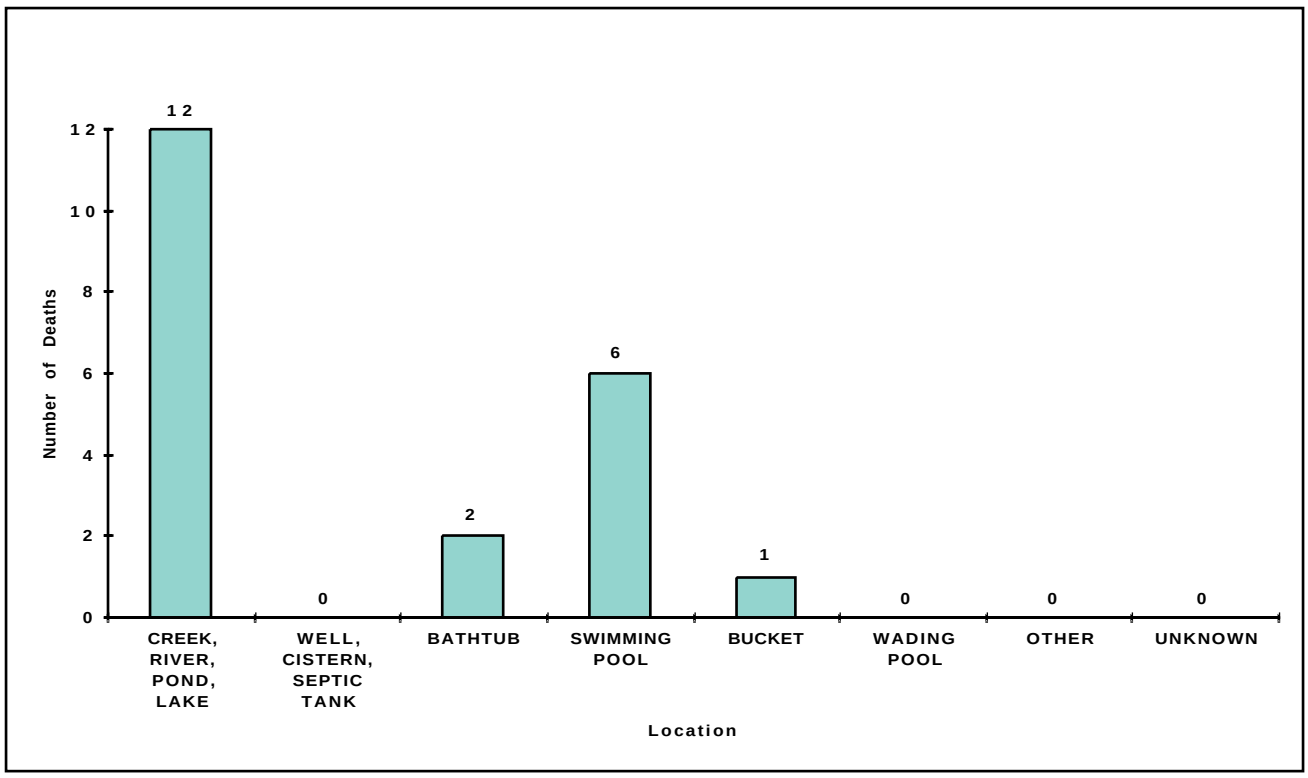
Figure 37. Drownings by Month in 1995



• The peak months for drownings in 1995 were June and July with six each, followed by August with four (Figure 37).

• Natural bodies of water, followed by swimming pools, were the most common locations of child drownings in 1995 (Figure 38).

Figure 38. Location of Drownings in 1995



Fire/Burn Injuries

Fire/Burn injuries were the cause of 15 deaths of children less than 18 years of age in 1995, representing 4.3% of injury-related deaths.

- As shown in Figure 39, 33% (five) of fire/burn deaths were children less than five years of age.

- Sixty percent (nine) of fire/burn deaths were male and 67% (ten) were white (Figure 40).

Figure 39. Age Distribution of Fire/Burn Deaths in 1995

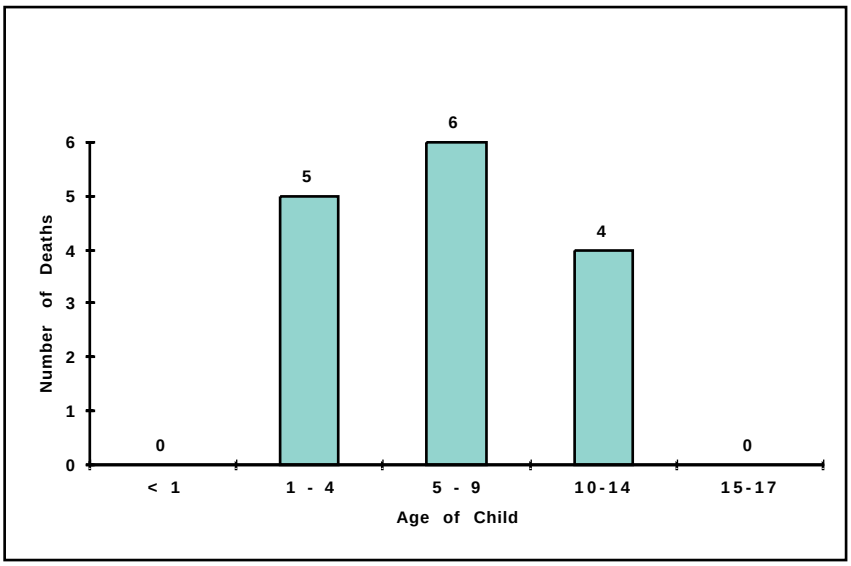
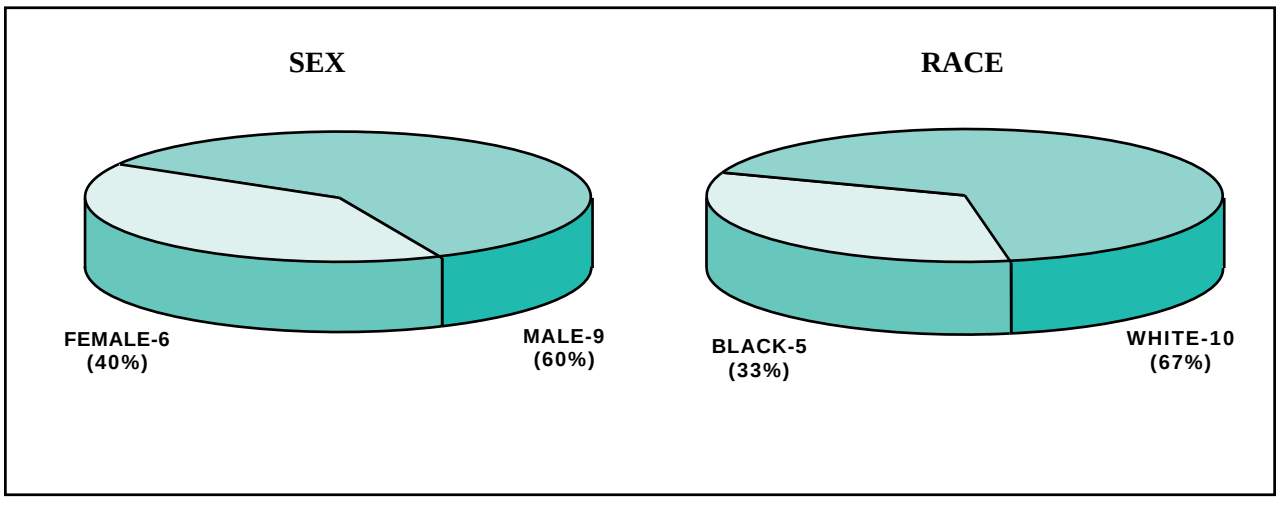
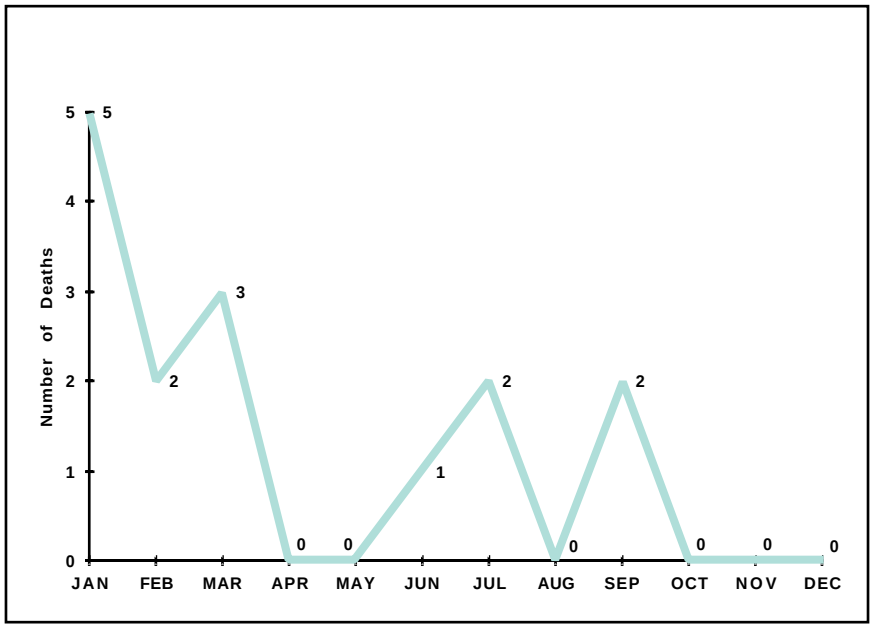


Figure 40. Sex and Race of Fire/Burn Deaths in 1995



Fire/Burn Injuries

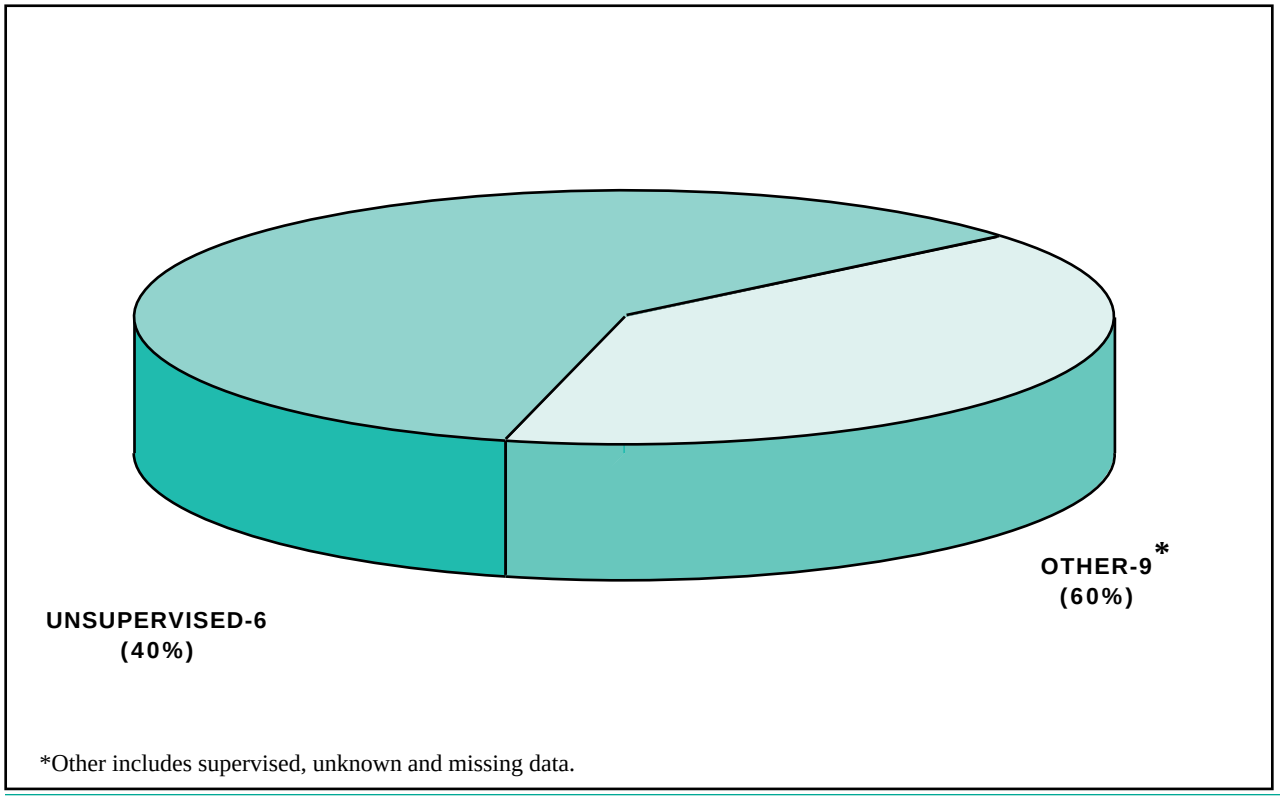
Figure 41. Fire/Burn Deaths by Month in 1995



• The peak month for fire/burn deaths in 1995 was January with five, followed by March with three (Figure 41).

• Forty percent of children who died due to fire or burns were unsupervised at the time of injury (Figure 42).

Figure 42. Fire/Burn Deaths by Lack of Supervision in 1995



Motor Vehicle Injuries

Motor vehicle injuries were the cause of 150 deaths of children less than 18 years of age in 1995, representing 43.4% of injury-related deaths.

- As shown in Figure 43, 87% (131) of motor vehicle deaths were children greater than four years of age.

- Sixty-five percent (97) of motor vehicle deaths were male and 86% (130) were white (Figure 44).

Figure 43. Age Distribution of Motor Vehicle Deaths in 1995

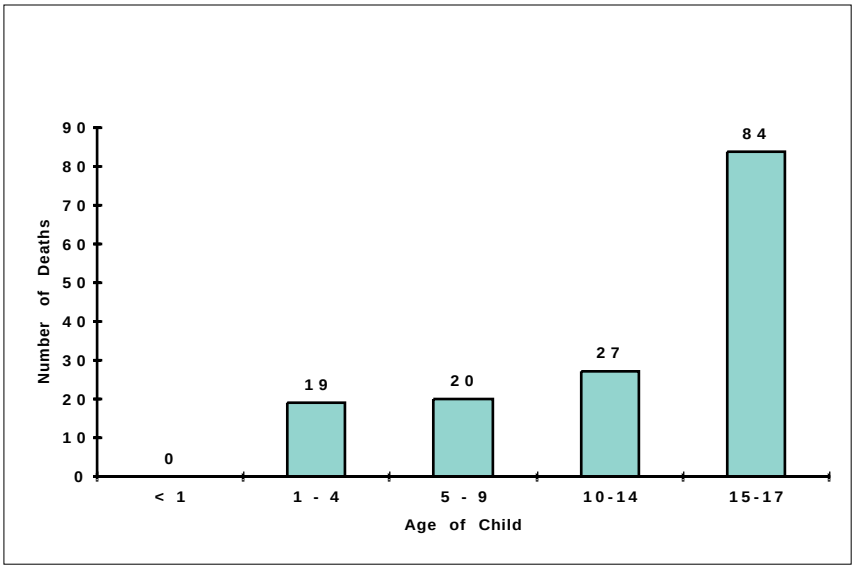
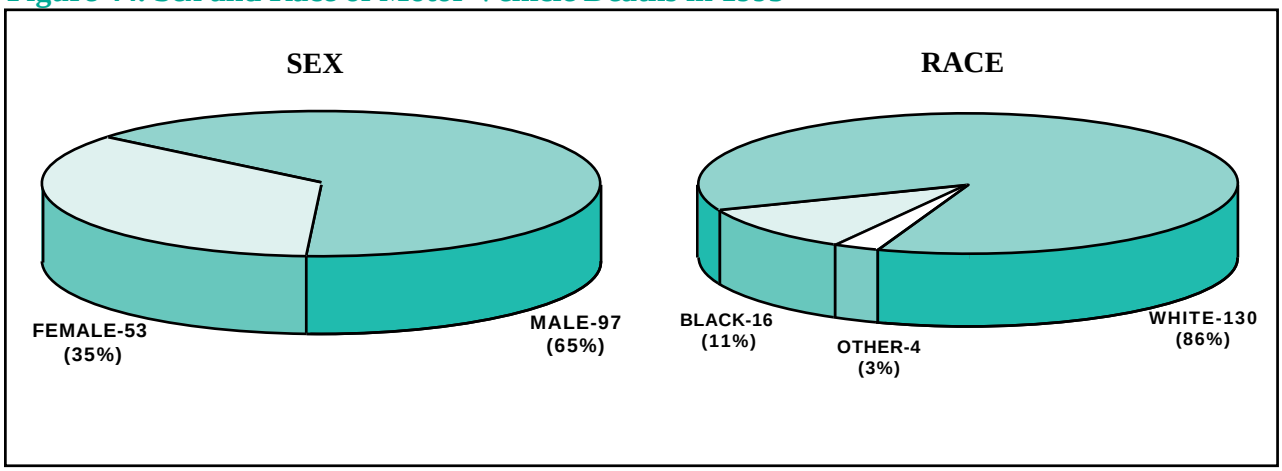
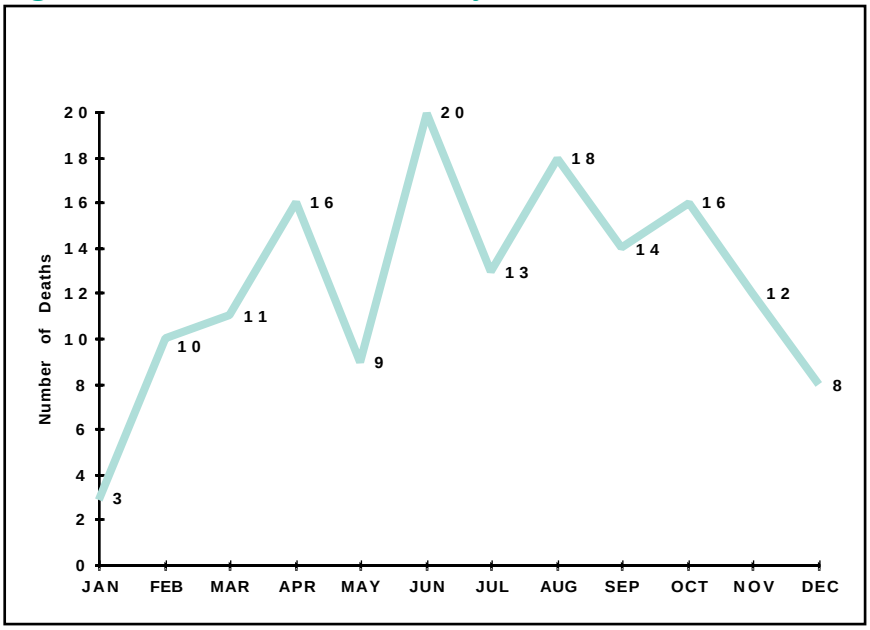


Figure 44. Sex and Race of Motor Vehicle Deaths in 1995



Motor Vehicle Injuries

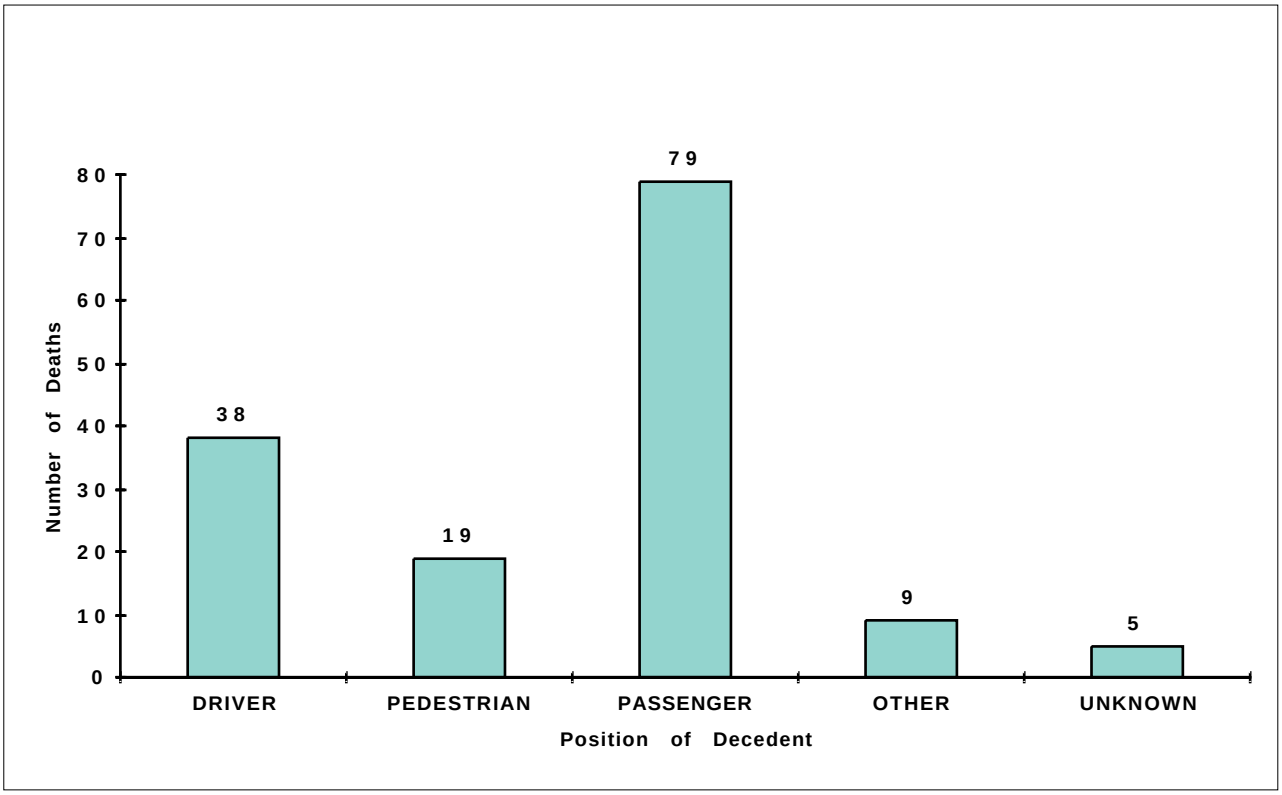
Figure 45. Motor Vehicle Deaths by Month in 1995



• The peak month for motor vehicle deaths in 1995 was June with 20, followed by August with 18, and April and October with 16 each (Figure 45).

• Fifty-three percent of children killed in motor vehicle accidents were passengers and 13% were pedestrians at the time of injury (Figure 46).

Figure 46. Motor Vehicle Deaths by Position at Time of Injury in 1995



Unintentional Strangulation/Suffocation

Strangulation/Suffocation was the cause of 25* deaths

of children less than 18 years of age in 1995,

representing 7.2% of injury-related deaths.

- As shown in Figure 47, 56% (14) of unintentional strangulation/suffocation deaths were children less than one year of age.

- Sixty-eight percent (17) of unintentional strangulation/suffocation deaths were male and 96% (24) were white (Figure 48).

Figure 47. Age Distribution of Unintentional Strangulation/ Suffocation Deaths in 1995

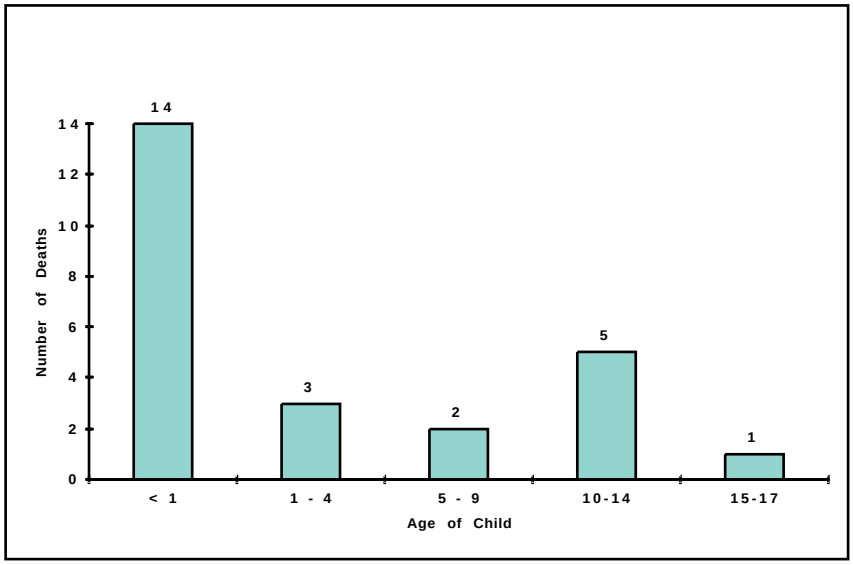
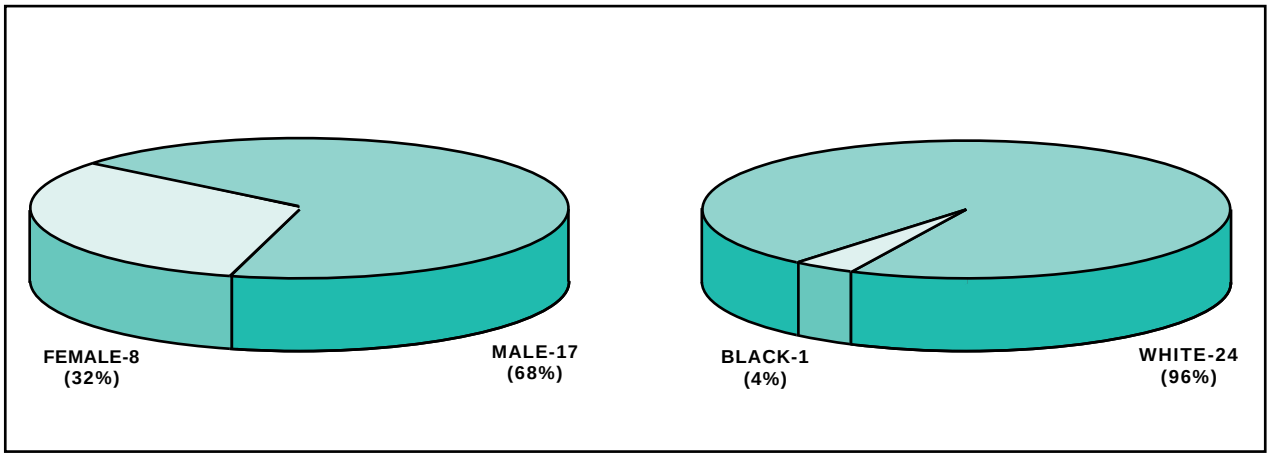


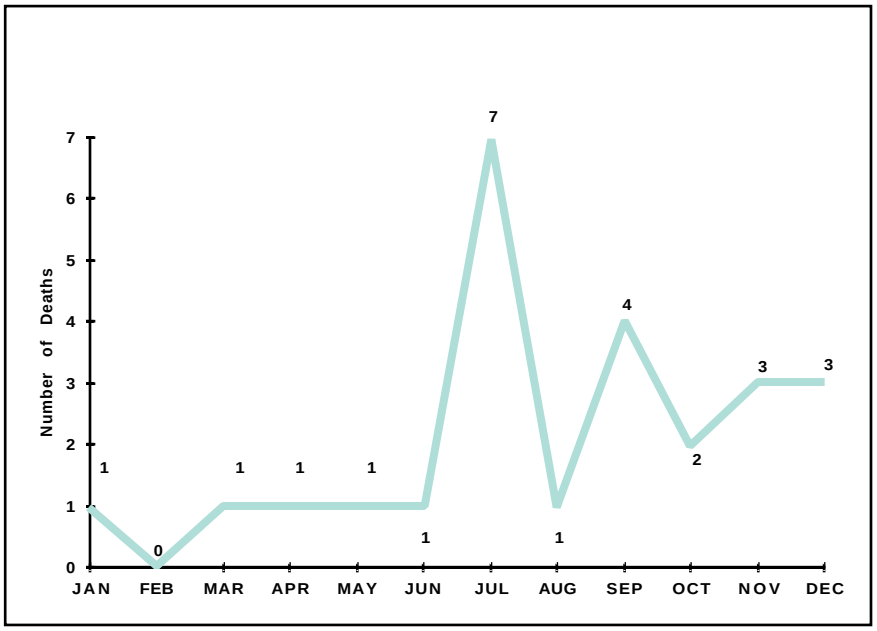
Figure 48. Sex and Race of Unintentional Strangulation/Suffocation Deaths in 1995



*Unintentional deaths only. Thirteen additional strangulation/suffocations were recorded - five homicides and eight suicides.

Unintentional Strangulation/Suffocation

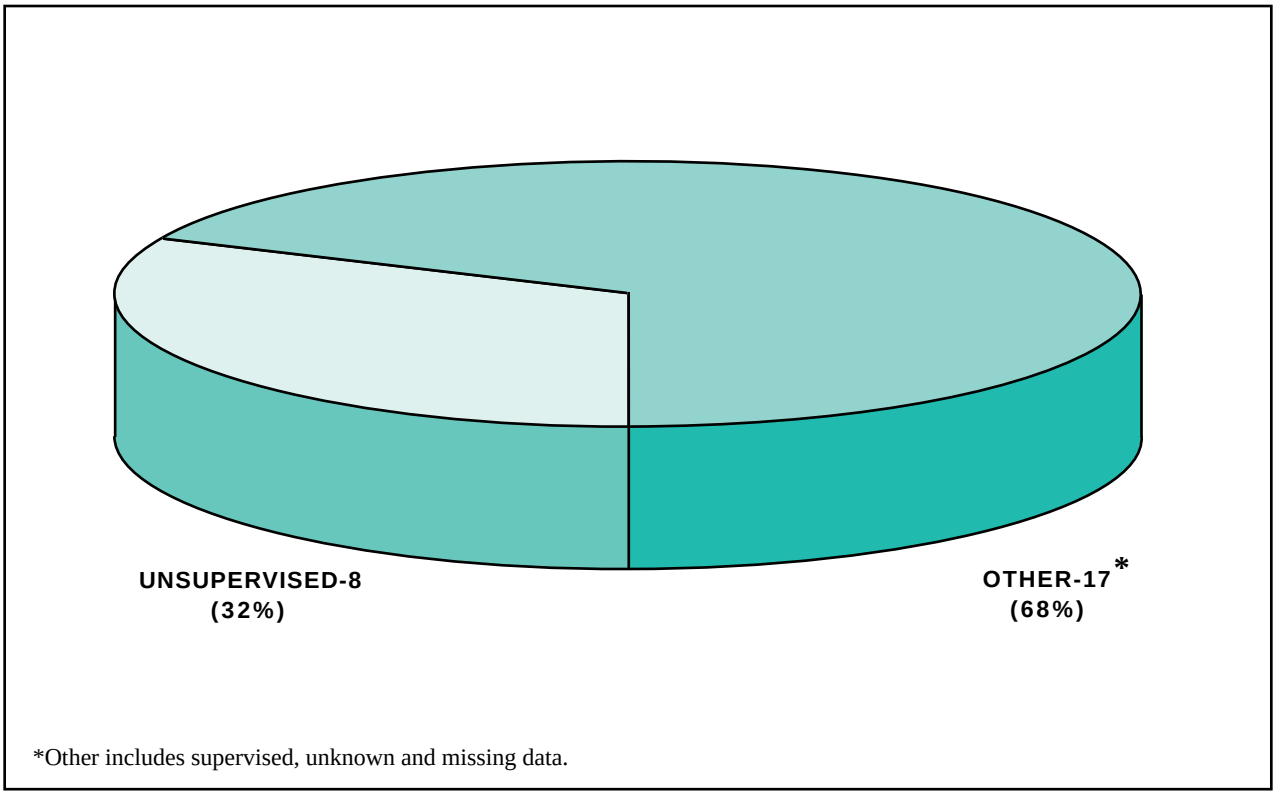
Figure 49. Unintentional Strangulation/Suffocation Deaths by Month in 1995



• The peak month for unintentional strangulation/suffocation deaths in 1995 was July with seven, followed by October with four (Figure 49).

• Thirty-two percent of unintentional strangulation/suffocation child deaths were unsupervised at the time of injury (Figure 50).

Figure 50. Unintentional Strangulation/Suffocation Deaths by Lack of Supervision in 1995



*Other includes supervised, unknown and missing data.

Unintentional Firearm Injuries

Unintentional firearm injuries were the cause of ten deaths of children less than 18 years of age in 1995, representing 12.7% of all firearm-related deaths.

- As shown in Figure 51, 100% of unintentional firearm deaths were children greater than nine years of age.

- Ninety percent (nine) of unintentional firearm deaths were male and 70% (seven) were white (Figure 52).

Figure 51. Age Distribution of Unintentional Firearm Deaths in 1995

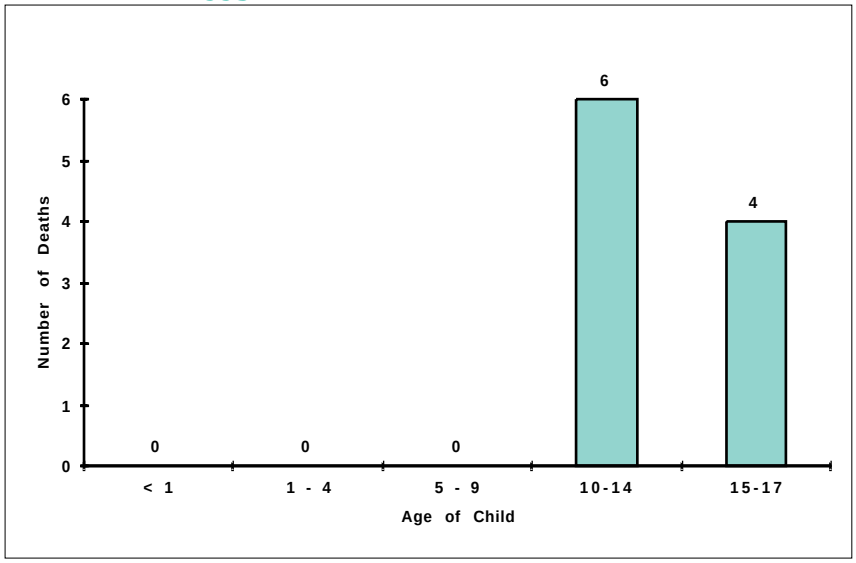
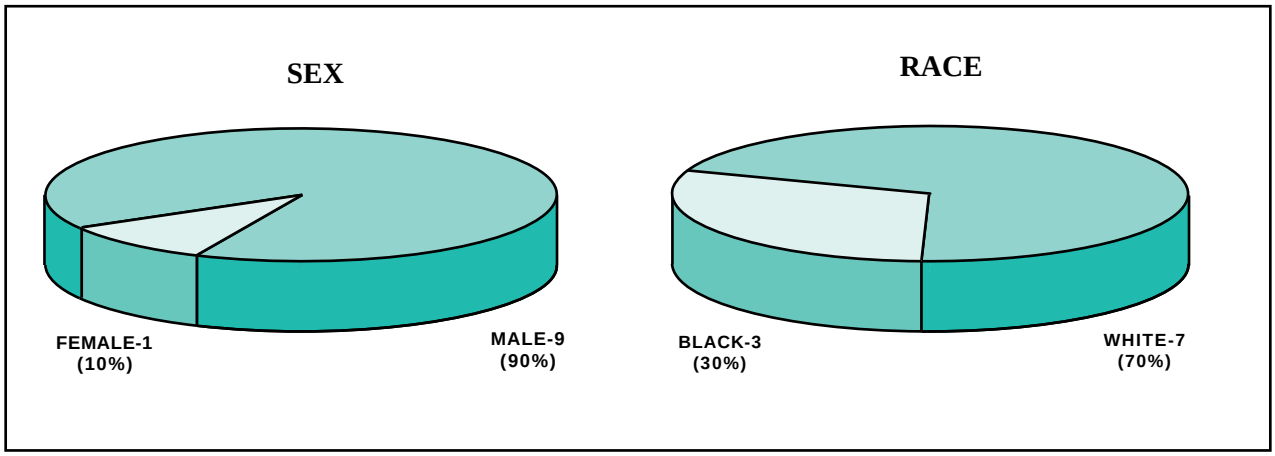
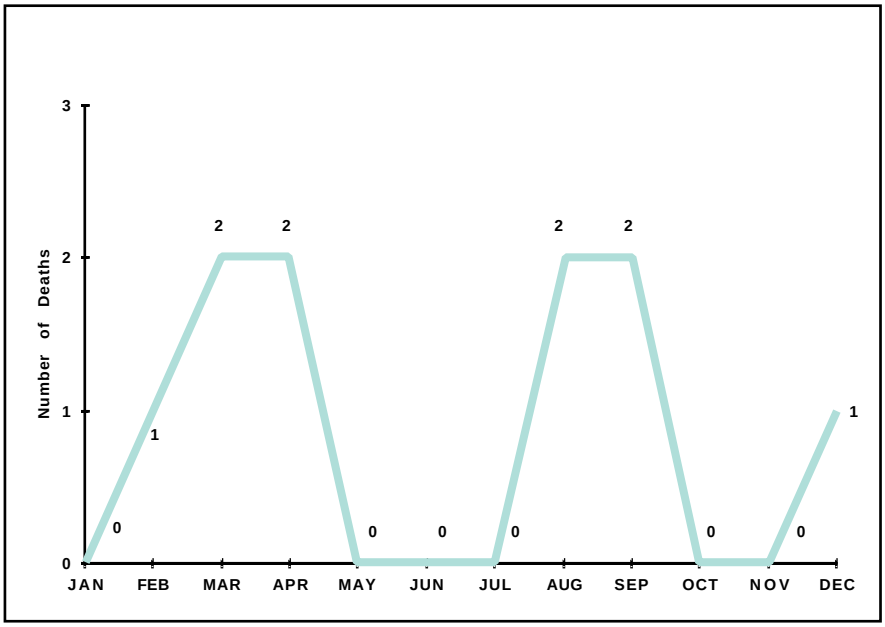


Figure 52. Sex and Race of Unintentional Firearm Deaths in 1995



Unintentional Firearm Injuries

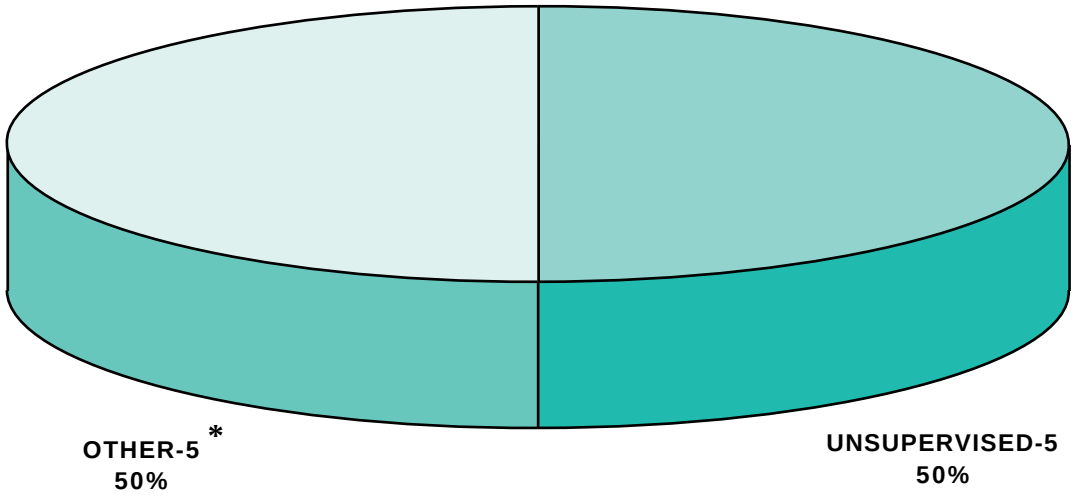
Figure 53. Unintentional Firearm Deaths by Month in 1995



• The peak months for unintentional firearm deaths in 1995 were March, April, August, and September with two each (Figure 53).

• Fifty percent of unintentional firearm child deaths were unsupervised at the time of injury (Figure 54).

Figure 54. Unintentional Firearm Deaths by Lack of Supervision in 1995



*Other includes supervised, unknown and missing data.

CHILD FATALITY REVIEW PROGRAM OVERVIEW AND DATABASE DEFINITIONS

Due to the complexity of data from the Child Fatality Review Program, a brief introduction to the program and definitions of key variables and concepts is presented here. We hope this will facilitate requests for data and interpretation of data from the program's database.

Program Overview

Concern about the possible under-reporting of Missouri child deaths related to abuse and neglect led in 1991 to passage of House Bill 185, which resulted in creation of the state Child Fatality Review Program. The stated goals of the project are:

- Implement a multi-disciplinary approach to investigating child fatalities;
- Improve outcomes of investigations of child fatalities;
- Improve accuracy in reporting causes of child fatalities; and,
- Guide prevention efforts of child injuries and fatalities.

The Department of Social Services and the State Technical Assistance Team within that department, were given primary responsibility for implementing the legislation. STAT organized a state advisory panel and a child fatality review panel in each county and the City of St. Louis to review deaths of children from birth through age 17 years. Each child death is reviewed by the coroner or medical examiner and the county CFRP chairperson, and the findings of that review are reported on the Coroner/Medical Examiner Data Report (Data Form 1). Deaths resulting from unexplained causes, injuries or suspected abuse or neglect are of particular concern; these are referred to the full CFRP panel for review.

Each CFRP panel is multi-disciplinary, being composed of the coroner or medical examiner, public health nurse or physician, emergency medical services representative, prosecuting attorney, law enforcement officer, Division of Family Services representative, juvenile officer and, as appropriate, others such as educators or fire investigators. Panel members have been trained in skills relevant to investigating child deaths. Results of the review by the full panel are reported on the Child Fatality Review Panel Data Report (Data Form 2). In addition to conclusions about the cause of death, information about targeted prevention strategies, criminal proceedings and contact with the Child Abuse and Neglect Hotline are reported on Data Form 2.

Missouri Incidence Deaths

"Missouri incidence death" refers to just those child deaths included in the CFRP. Missouri incidence deaths are those deaths of children, 0-17 years of age, which occur within the state of Missouri, except that deaths resulting from injury or other causes which occur outside the state are excluded. Though by law all child deaths occurring in Missouri are reported, the Missouri incidence deaths are of primary interest, and the most complete data are collected on these child deaths.

CFRP Database

Beginning with 1992 childhood deaths, a child fatality surveillance data system has been collecting, analyzing and reporting data on child fatalities. This system uses data from the Child Fatality Review Program (Data Form 1 and Data Form 2) as well as from the death and birth certificate files, data on Medicaid eligibility and data on substantiated child abuse and neglect deaths from DFS. Use of diverse sources produces more complete information on each childhood fatality.

Data Forms 1 and 2 were revised beginning in 1994. Several items were changed in format or in content to better request the needed data. For example, the new Data Form 2 requests the CA/N Hotline incidence number of possible abuse or neglect cases to facilitate obtaining data from the state DFS office, rather than request such data from the field personnel. Several new data questions were added such as identity of the child's mother, more information about witnesses of injuries, persons who inflicted injuries resulting in death, and prevention efforts taken by the community.

Causes of Death

Both the mortality file and CFRP reports include data on cause of death, but from slightly different perspectives. Mortality file deaths are coded in terms of the ICD-9 system, which requires interpretation of injury deaths in terms of whether or not the injury was intended. The CFRP classification system attempts to provide additional information on the behaviors which contribute to child death and does not require judgments about intentionality.

A third coding system, the Behavior Codes (B-code) system, is derived by computer from the CFRP report data. This system was developed under the leadership of Dr. Bernard Ewigman of the University of Missouri Medical Center. It classifies child injury deaths according to behaviors which inflict injuries to children, behaviors which fail to meet basic needs of dependent children and behaviors which allow inappropriate exposure of children to hazardous objects or situations. Use of the B-code is expected to provide information, heretofore unavailable, on the specific behaviors and circumstances which contribute to child injury deaths. The B-code classification system is still being tested for reliability.

The ICD-9 classification of cause of death is encouraged for most purposes, both because it is more widely known and used and because the CFRP system provides limited information on homicides and intentional injuries. CFRP data will be most useful when information about behaviors contributing to cause of death is needed and when the focus is on behaviors rather than on intent. The B-code system, when in more general use, can provide a useful system for describing and numerically coding behaviors which contribute to child deaths. When requesting data from the CFRP database, any data not identifying specific individuals may be requested. The following definitions are intended to facilitate such requests.

Definitions of Important Terms and Variables

Certified Death:

Death included in the Missouri Center for Health Statistics (MCHS) mortality file, reported by death certificate.

Missouri Incidence Death:

Death within Missouri of a child younger than 18 years. On the basis of data from the CFRP Data Form 1 or Data Form 2, one of the following is true:

- The child died as a result of an injury which occurred in Missouri.
- The child died as a result of a natural (non-injury) cause which occurred, or is assumed to have occurred, within Missouri. (This excludes deaths due to illness or other natural cause which occurred outside Missouri; i.e; at a non-Missouri residence.)
- The child was born in Missouri and died as a newborn (within ten days of birth) without having left the state. (Such children are included regardless of the assumed place of occurrence of the cause of death or of the residence of the child or the child's family.)

Missouri incidence is determined by use of data reported on Data Form 1, and no death is considered a Missouri incidence death until Data Form 1 has been received.

CFRP Cause of Death:

Cause of death as reported on CFRP Data Forms 1 and 2. The forms include categories for natural cause; known illness (which includes congenital anomalies and perinatal conditions), adequate care (which specifies malnutrition/dehydration, delayed medical care, apparent lack of supervision) and SIDS, sudden unexplained death (as defined elsewhere) and injuries classified by the type of agent or force which caused the injury (i.e.; vehicular, drowning, firearm, fall, poisoning). The CFRP classification provides no indication of whether the injury was intentional; thus, homicide is not included as a cause in this system. The CFRP does provide for an indication of whether or not the injury was inflicted; that is, whether it occurred as a result of the action of another person, without regard to intent or purpose of the action. If the case is referred to the CFRP panel for review, Data Form 2 is completed to report the findings of the panel. The Data Form 2 report includes information on DFS findings regarding possible child abuse or neglect and information related to criminal proceedings.

Mortality File Cause of Death:

The Mortality File lists cause of death as reported by ICD-9 code on Missouri death certificates. The ICD-9 coding classification system includes natural causes such as various diseases, congenital anomalies, perinatal conditions and certain ill-defined conditions (which includes SIDS). The injury classification includes those identified as "accidents" (unintentional), those considered intentional (homicide, suicide) and those with undetermined intent. Injury deaths are further classified by the type of agent or force which caused the injury (i.e.; motor vehicle crash, firearm, poisoning, burn, fall, drowning).

Mortality File Manner of Death:

Cause of death reported in mortality file and formatted to conform to "Manner of Death" variable in the death certificate. This includes six categories based on the ICD-9 code: Natural; Accident (unintentional injury); Suicide; Homicide; Undetermined and Pending Investigation.

Sudden Infant Death Syndrome (SIDS):

Sudden death of an infant under one year of age which remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene and review of the clinical history.

- Mortality File SIDS: Death by SIDS, as defined operationally by being reported in the mortality file associated with the ICD-9 code 7980.
- CFRP SIDS: Death by SIDS, as defined operationally by being reported in the CFRP file, from Data Form 1 or Data Form 2, as due to SIDS.

Sudden, Unexplained Death (SUD):

Sudden death of an infant less than one year of age due to unexplained cause, suggesting SIDS but not yet having the postmortem examination, scene investigation, or review of social and medical history needed for SIDS designation. Defined operationally by being reported as SUD in Data Form 1.

Reviewable Death:

Death which has been reported by Data Form 1 as requiring review by the CFRP review panel, whether or not the review has yet been completed and reported. The Data Form 1 report is required for all child deaths which occur in Missouri, and includes an indication of whether a review of that death will be required. If Data Form 1 indicates a reviewable death, Data Form 2 should be completed after the review.

Reviewed Death:

Death which has been reviewed by a local CFRP review panel and reported on Data Form 2.

Mortality File County of Death:

The county, reported in the mortality file, in which the death was officially recorded. May be a Missouri or non-Missouri county.

CFRP County of Death:

The county, reported by the Data Form 1 or Data Form 2, in which the death occurred. Only deaths in Missouri are included in the CFRP database.

CFRP County of Incidence:

The county, reported by Data Form 1 or Data Form 2, in which the fatal illness, injury, or event occurred. If the county of incidence is a Missouri county, the death is, by definition, a Missouri incidence death. If the county of incidence is outside the state of Missouri, the death is, by definition, not a Missouri incidence death. If the county of death is in Missouri but the county of incidence is not, only identifying information (Section A of Data Form 1) is requested.

CFRP County of Residence:

The county, reported by Data Form 1 or Data Form 2, as the county of decedent's residence. May be a Missouri or non-Missouri county. If the child is a newborn, the newborn's county of residence is the mother's county of residence.

CFRP Region:

Location, reported by Data Form 1 or Data Form 2, in which the fatal illness, injury, or event occurred, formatted to conform to the seven geographic regions defined for the CFRP program (see map on Page 52).

Child Abuse/Neglect (CA/N):

Death for which DFS reports substantiated child abuse or neglect. Substantiation may result from the DFS investigation finding of probable cause or court adjudication. As a cause of death, abuse refers to physical, sexual or emotional maltreatment or injury inflicted on a child, other than accidentally, by those responsible for the child's care, custody and control, except that discipline including spanking, administered in a reasonable manner, shall not be construed to be abuse. Neglect refers to failure to provide, by those responsible for the care, custody and control of the child, the proper or necessary support, education as required by law, nutrition, medical, surgical, or any other care necessary for the child's well-being.

Unsupervised Death:

Death for which data from Data Form 1 and Data Form 2 suggest that the decedent may not have had adequate supervision at time of the fatal injury or death event. Defining variables include reports that the event was unwitnessed, that the caretaker was asleep at the time (except during normal sleeping hours) or that there was no adult caretaker.

Mortality File Abuse/Neglect:

Death for which the ICD-9 code in the mortality file indicates abuse or neglect. Relevant ICD-9 codes are 904.0, 967, and 968.4. These abuse/neglect deaths are usually under-reported relative to those reported by DFS as substantiated child abuse or neglect.

Mortality File Homicide Death:

Death due to homicide, as reported by ICD-9 codes 960-979. Homicide is not defined on Data Forms 1 or 2. Child abuse/neglect deaths as determined by DFS are not necessarily coincidental with homicides, since CA/N deaths, by definition, are committed by a caretaker who has care, custody or control of the child at the time.

Mortality File Suicide Death:

Death due to suicide, as reported by ICD-9 codes 950-959.

Mortality File Autopsy:

Indication from mortality file that decedent was autopsied.

CFRP Autopsy:

Indication from CFRP file that decedent was autopsied.

Maltreatment Death:

Death operationally defined as being due either to homicide, as reported in the mortality file, or to substantiated child abuse/neglect, as reported by DFS.

Violent Death:

Death operationally defined as being due either to homicide (including those homicides due to child battering or other maltreatment) or suicide, as reported in the mortality file.

Appendix 1. Missouri Child Fatality Review Program Members

Department of Social Services, State Technical Assistance Team

Gus Kolilis, Director
Donna Prenger, Administrator
Richard Easter, Chief Investigator
Rodney Jones, Investigator
Kathleen Loyd, Investigator
Maurine Hill, Technical Investigator
Theresa Murrell, Secretary
Jerry Holder, Urban Case Coordinator, Jackson County
Debbie McDermott, Urban Case Coordinator, St. Louis City
Suzanne McCune, Urban Case Coordinator, St. Louis County

State Child Fatality Review Panel

Roger Barr, Juvenile Officer, 42nd Judicial Circuit
Susan Blue, Social Service Supervisor III, Area 4E Division of Family Services Office
Ted Boehm, Boone County Sheriff
Chief David Niebur, Joplin Police Department
Fred Ward, Randolph County Coroner
Dr. Jay Dix, Boone County Medical Examiner
Harold Bengsch, Director, Springfield Department of Health
Mary Greer, Prosecuting Attorney, Morgan County
Robert Geigle, EMS Supervisor, St. Louis City EMS

Child Fatality Review Program, Regional Coordinators

Doug Miller, Division of Child Support Enforcement, Department of Social Services
Becky Mueller, County Director, Lincoln County Division of Family Services, Department of Social Services
Dorothy Adams, Dunklin County Division of Family Services, Department of Social Services
Helen Shore, County Director, Newton County Division of Family Services, Department of Social Services
Maurine Hill, Technical Investigator, State Technical Assistance Team, Division of Family Services, Department of Social Services

University of Missouri-Columbia School of Medicine, Child Injury Research Group

Bernard Ewigman, MD, MSPH, Associate Professor, Director

Prosecutor Peer Group

Mark Aker, Prosecuting Attorney, Washington County
Mary Browning, Division of Legal Services, Department of Social Services
Jane Geiler, City of St. Louis, Assistant Prosecutor
Cynthia Rushefsky, Assistant Prosecutor, Greene County
Dwight Scroggins, Prosecuting Attorney, Buchanan County
Robert Sterner, Prosecuting Attorney, Callaway County
Timothy Wynes, Director, Division of Legal Services, Department of Social Services
Liz Ziegler, Executive Director, Office of Prosecution Services, Office of the Attorney General

Medical Consultant

Douglas Beal, MD, FAAP, MS, Pediatric Specialist

Appendix 2. Mandated Activities for Child Fatalities

Every county must have a multi-disciplinary child fatality review panel (114 counties and City of St. Louis).

The county panel must consist of at least the following seven core members: prosecuting attorney, coroner/medical examiner, law enforcement representative, Division of Family Services representative, public health representative, juvenile officer, and emergency medical services representative. Panels may elect to have additional members.

All deaths, ages birth to 17, must be reported to the coroner/medical examiner.

Children, age one week to one year, who die in a **sudden**, **unexplained** manner must have an autopsy.

A state child fatality review panel must meet at least two times per year to review the program's progress and identify systemic needs and problems.

Panels must use uniform protocols and data collection forms.

Certified child-death pathologists must perform the autopsies.

Knowingly violating reporting requirements is a Class A misdemeanor.

When a child's death meets the criteria for review activation of the panel must occur within 24 hours of the child's death, with a meeting scheduled as soon as practical.

Appendix 3. Criteria for Child Fatality Review

Sudden unexplained death, age less than one year

Death unexplained/undetermined manner

Division of Family Services reports on the decedent or other persons in the residence

Decedent in Division of Family Services custody

Possible inadequate supervision

Possible malnutrition or delay in seeking medical care

Possible suicide

Possible inflicted injury

Any firearm injury

Injury not witnessed by person in charge at time of injury

Death due to confinement

Any drowning

Suffocation or strangulation

Any poisoning/chemical/drug ingestation

Severe unexplained injury

Pedestrian vehicle/driveway injury

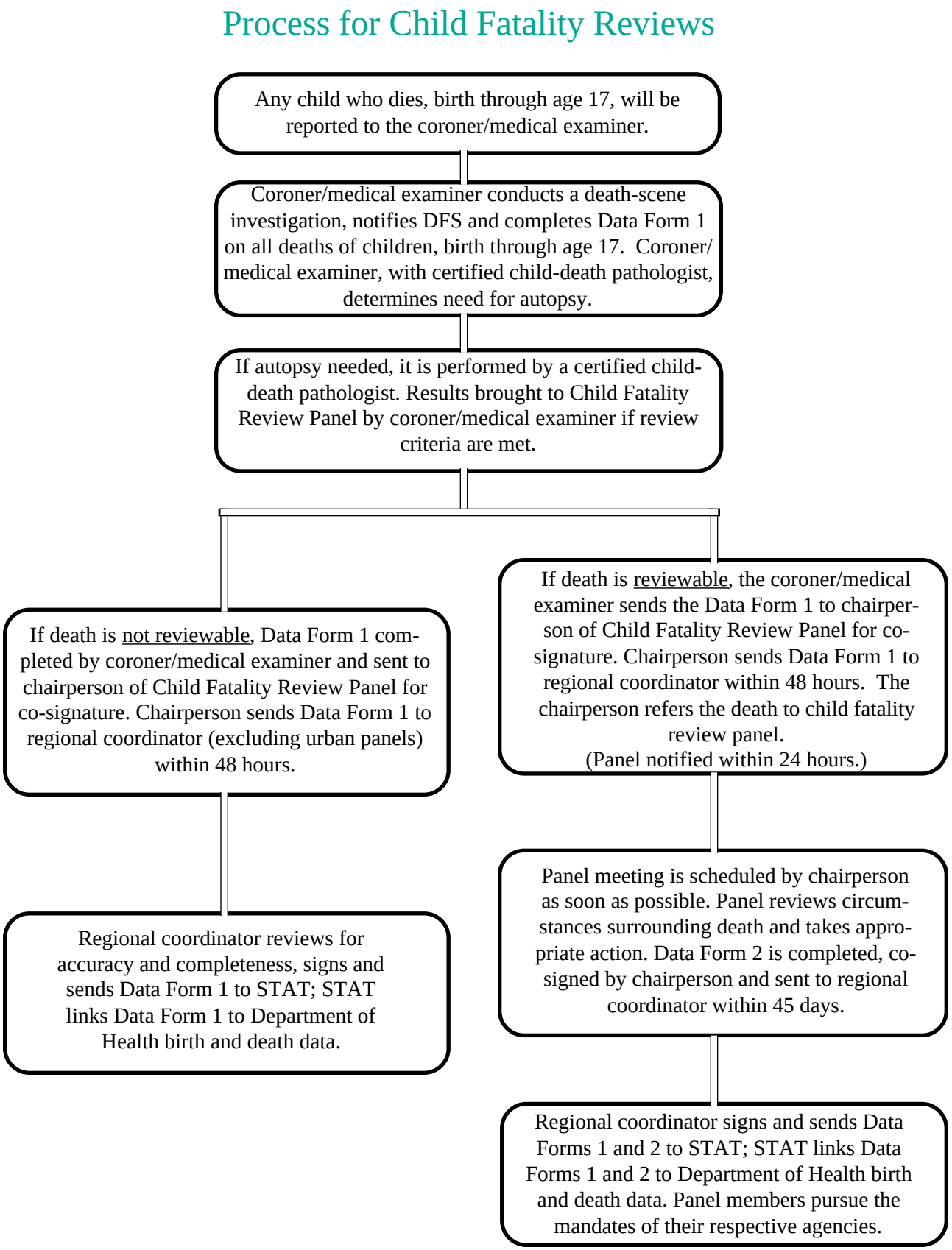
Suspected sexual assault

Death due to any fire injury

Panel descretion

Other suspicious findings (injuries such as electrocution, crush, or fall)

Appendix 4. Review Process



Appendix 5. Missouri Incidence Child Deaths (Age less than 18*) by County

County of Event	All Deaths			Reviewed Deaths			Injury Deaths		
	1993	1994	1995	1993	1994	1995	1993	1994	1995
ADAIR	6	5	2	2	1	1	2	1	2
ANDREW	0	2	2	0	2	2	0	2	2
ATCHISON	0	1	0	0	1	0	0	0	0
AUDRAIN	3	2	4	1	1	1	1	1	1
BARRY	7	4	6	2	2	6	3	2	2
BARTON	0	1	3	0	1	2	0	1	3
BATES	1	3	1	1	1	1	0	2	1
BENTON	0	1	0	0	0	0	0	1	0
BOLLINGER	4	3	1	1	1	0	3	1	1
BOONE	42	37	38	5	7	8	1	2	4
BUCHANAN	18	13	13	4	3	6	3	2	2
BUTLER	18	16	7	6	5	2	2	7	2
CALDWELL	0	3	0	0	3	0	0	2	0
CALLAWAY	1	0	7	0	0	4	0	0	4
CAMDEN	1	6	8	0	1	4	0	2	5
CAPE GIRARDEAU	12	7	16	4	3	4	1	3	6
CARROLL	2	4	1	1	3	1	1	2	1
CARTER	2	0	1	0	0	0	0	0	1
CASS	6	6	4	3	3	1	0	3	2
CEDAR	5	1	1	4	1	0	0	1	0
CHARITON	0	0	2	0	0	0	0	0	2
CHRISTIAN	2	2	7	1	0	2	1	0	3
CLARK	1	0	1	1	0	0	0	0	0
CLAY	22	17	13	16	12	8	5	5	5
CLINTON	1	2	3	0	2	1	0	1	3
COLE	13	1	9	6	1	6	5	1	6
COOPER	2	1	3	1	0	0	2	1	1
CRAWFORD	0	5	6	0	2	3	0	1	1
DADE	1	1	3	1	1	1	0	0	3
DALLAS	1	3	3	0	2	2	1	1	2
DAVIESS	3	1	2	1	1	2	2	0	2
DE KALB	1	0	0	1	0	0	0	0	0
DENT	4	1	4	3	0	1	3	1	4
DOUGLAS	0	1	3	0	1	3	0	1	3
DUNKLIN	5	8	9	0	3	3	0	2	2
FRANKLIN	9	9	8	9	4	7	5	4	6
GASCONADE	3	1	1	1	1	0	2	1	0
GENTRY	1	0	0	0	0	0	1	0	0
GREENE	65	50	68	9	9	16	5	6	11
GRUNDY	0	1	2	0	0	2	0	0	2
HARRISON	2	1	0	1	1	0	1	1	0
HENRY	4	3	3	1	0	1	1	2	2
HICKORY	0	1	1	0	0	0	0	0	0
HOLT	0	0	1	0	0	0	0	0	0
HOWARD	0	0	2	0	0	0	0	0	1
HOWELL	7	11	7	2	3	2	0	2	3
IRON	1	2	1	1	1	1	1	1	0

*Beginning in 1995, child deaths were recorded for all children less than 18 years of age. Prior years recorded deaths only for those children less than 15.

Appendix 5. Missouri Incidence Child Deaths (Age less than 18*) by County

County of Event	All Deaths			Reviewed Deaths			Injury Deaths		
	1993	1994	1995	1993	1994	1995	1993	1994	1995
JACKSON	194	162	184	65	49	67	22	19	35
JASPER	15	7	18	11	5	9	7	4	7
JEFFERSON	22	20	24	15	14	18	10	7	10
JOHNSON	6	6	6	4	3	2	2	1	3
KNOX	1	0	0	0	0	0	0	0	0
LACLEDE	6	6	9	1	4	7	2	3	5
LAFAYETTE	2	8	5	1	4	4	0	2	2
LAWRENCE	5	3	4	2	2	3	1	2	1
LEWIS	0	0	0	0	0	0	0	0	0
LINCOLN	7	7	5	6	2	3	4	1	4
LINN	2	2	1	1	2	0	1	1	1
LIVINGSTON	1	2	2	0	0	0	0	0	2
MCDONALD	2	1	5	2	0	3	1	0	2
MACON	4	0	1	3	0	0	3	0	1
MADISON	2	0	4	2	0	1	1	0	2
MARIES	1	2	0	0	1	0	1	1	0
MARION	7	2	6	2	1	1	1	0	4
MERCER	0	0	2	0	0	1	0	0	0
MILLER	3	3	4	2	3	3	1	1	1
MISSISSIPPI	1	2	1	0	1	0	0	0	0
MONITEAU	0	2	1	0	2	0	0	1	0
MONROE	0	1	0	0	0	0	0	1	0
MONTGOMERY	1	1	6	1	0	3	1	0	6
MORGAN	3	3	3	2	3	1	2	3	1
NEW MADRID	4	8	2	2	3	1	2	2	0
NEWTON	15	13	14	3	4	2	2	2	2
NODAWAY	0	2	1	0	0	1	0	0	0
OREGON	0	0	1	0	0	0	0	0	1
OSAGE	1	1	1	1	1	1	0	1	1
OZARK	0	1	2	0	0	0	0	0	2
PEMISCOT	11	5	2	3	3	1	4	0	0
PERRY	6	3	3	0	1	0	1	3	1
PETTIS	0	3	2	0	2	0	0	0	1
PHELPS	7	7	10	3	1	1	3	2	4
PIKE	3	3	2	2	1	0	0	0	2
PLATTE	4	5	4	3	2	3	1	0	1
POLK	2	5	4	0	5	4	0	2	4
PULASKI	6	5	7	3	2	2	2	2	3
PUTNAM	2	1	1	2	1	0	2	0	1
RALLS	0	0	1	0	0	0	0	0	0
RANDOLPH	0	5	3	0	2	0	0	4	1
RAY	3	2	4	3	2	2	2	0	2
REYNOLDS	1	0	0	1	0	0	0	0	0
RIPLEY	4	1	2	3	1	2	2	1	1
ST CHARLES	22	20	30	6	10	22	5	5	9
ST CLAIR	0	1	2	0	1	0	0	1	1
ST FRANCOIS	10	9	18	4	1	8	3	4	9

*Beginning in 1995, child deaths were recorded for all children less than 18 years of age. Prior years recorded deaths only for those children less than 15.

Appendix 5. Missouri Incidence Child Deaths (Age less than 18*) by County

County of Event	All Deaths			Reviewed Deaths			Injury Deaths		
	1993	1994	1995	1993	1994	1995	1993	1994	1995
ST LOUIS COUNTY	178	176	195	48	39	54	27	14	32
STE GENEVIEVE	0	2	2	0	1	0	0	2	1
SALINE	4	2	12	0	0	5	2	1	6
SCHUYLER	0	0	0	0	0	0	0	0	0
SCOTLAND	1	0	1	1	0	1	0	0	1
SCOTT	11	5	9	2	1	0	2	0	4
SHANNON	0	0	0	0	0	0	0	0	0
SHELBY	0	0	0	0	0	0	0	0	0
STODDARD	2	2	3	1	2	2	1	1	1
STONE	2	4	2	1	3	1	0	2	1
SULLIVAN	0	1	0	0	1	0	0	0	0
TANEY	2	2	2	0	1	1	1	1	0
TEXAS	2	2	3	0	0	3	0	0	3
VERNON	4	3	2	2	3	0	0	1	0
WARREN	2	2	2	2	2	0	1	2	2
WASHINGTON	3	2	3	3	1	1	2	0	2
WAYNE	2	3	3	1	0	1	0	1	2
WEBSTER	6	4	7	0	0	2	4	0	5
WORTH	0	0	1	0	0	0	0	0	0
WRIGHT	1	3	1	0	1	0	0	1	1
ST LOUIS CITY	172	149	184	55	54	81	23	21	51
STATE TOTAL	1,054	939	1,116	364	331	432	204	189	346

*Beginning in 1995, child deaths were recorded for all children less than 18 years of age. Prior years recorded deaths only for those children less than 15.

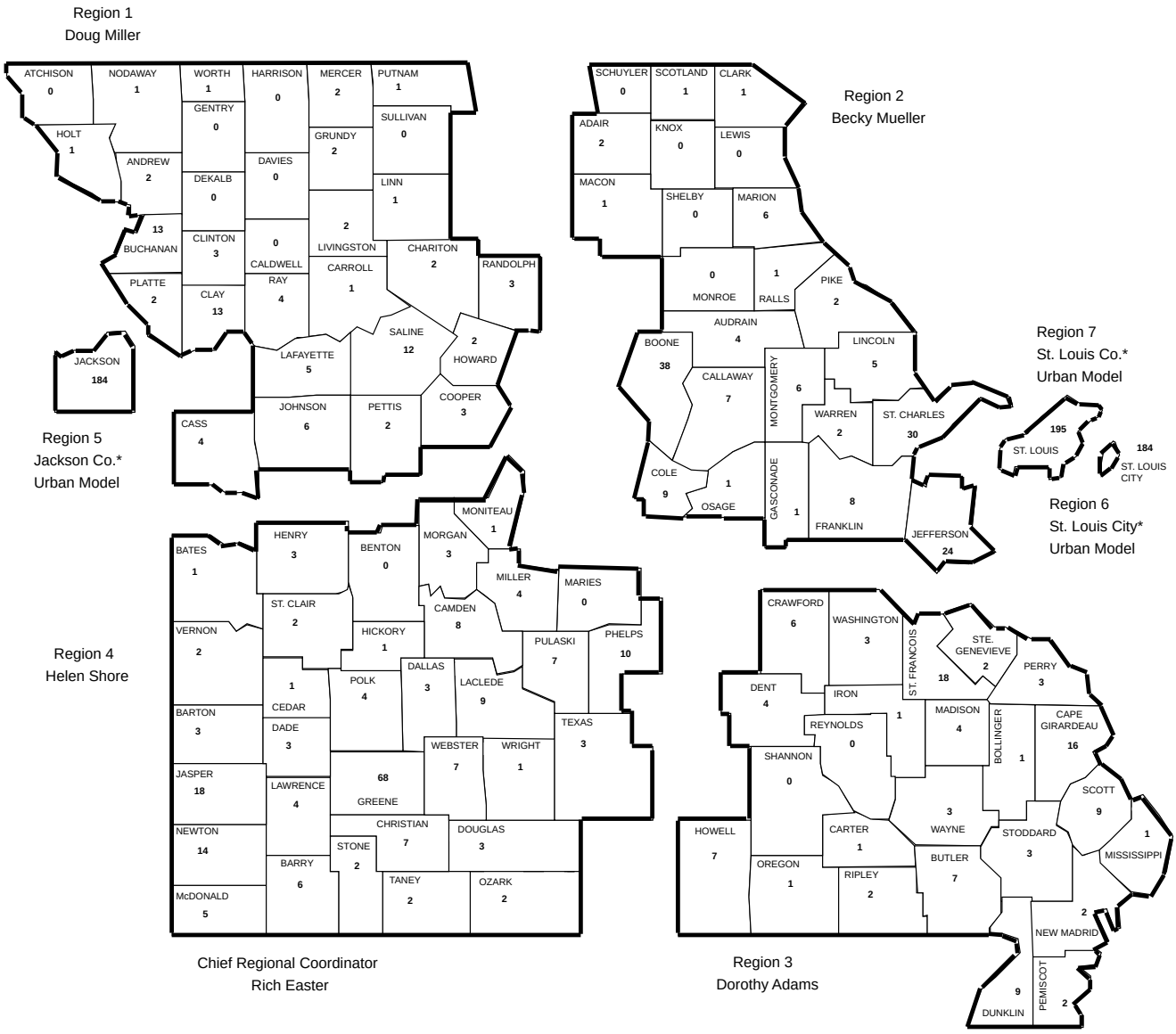
Appendix 6. Missouri Incidence Child Deaths (Age less than 18*) by Age, Sex, Race and Month

Characteristic	All Deaths			Reviewed Deaths			Injury Deaths		
	1993	1994	1995	1993	1994	1995	1993	1994	1995
Age of Child									
0	715	649	599	201	188	165	27	33	28
1	62	37	41	32	16	20	29	13	13
2	33	34	38	22	24	23	21	24	21
3	29	19	20	16	9	10	17	9	9
4	23	21	14	10	12	4	8	11	8
5	24	14	16	7	2	6	8	5	9
6	19	23	19	4	12	7	8	12	8
7	10	15	19	4	7	9	3	6	8
8	20	9	10	7	5	6	9	7	5
9	20	9	12	13	3	3	13	5	4
10	15	14	17	8	6	9	11	9	7
11	17	16	24	6	8	13	7	10	15
12	23	24	23	13	10	13	14	13	9
13	20	22	27	10	9	13	14	8	17
14	24	33	35	11	20	22	15	24	23
15	N/A	N/A	52	N/A	N/A	27	N/A	N/A	37
16	N/A	N/A	72	N/A	N/A	43	N/A	N/A	64
17	N/A	N/A	78	N/A	N/A	39	N/A	N/A	61
	1,054	939	1,116	364	331	432	204	189	346
Sex of Child									
Male	593	537	685	225	196	289	131	122	245
Female	436	379	431	131	126	143	71	66	101
Unknown	25	23	0	8	9	0	2	1	0
	1,054	939	1,116	364	331	432	204	189	346
Race of Child									
White	729	635	775	236	208	279	143	138	248
Black	290	272	307	120	109	148	58	46	91
Other	32	0	27	8	0	5	3	0	7
Unknown	3	32	7	0	14	0	0	5	0
	1,054	939	1,116	364	331	432	204	189	346
Month of Death									
January	104	83	81	32	30	42	17	16	20
February	94	88	84	35	28	30	14	18	30
March	107	77	114	38	33	37	17	15	30
April	75	65	94	24	19	33	15	7	31
May	85	76	102	37	22	43	16	20	29
June	93	80	90	28	37	27	21	27	31
July	91	87	99	34	33	45	30	26	42
August	73	93	80	21	23	28	17	11	33
September	83	65	94	22	23	42	14	13	31
October	82	70	93	29	24	30	11	12	27
November	80	88	86	30	32	35	16	12	21
December	87	67	99	34	27	40	16	12	21
	1,054	939	1,116	364	331	432	204	189	346

*Beginning in 1995, child deaths were recorded for all children less than 18 years of age. Prior years recorded deaths only for those children less than 15.

CHILD FATALITY REVIEW PROGRAM

1995 COORDINATOR REGIONS AND CHILD DEATHS PER COUNTY*



*Regions 5, 6, & 7
Urban Regional Coordinator
Maurine Hill

***CHILD DEATHS: Missouri Incidence Deaths of Children Ages < 18.**

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For additional information about Missouri's Child Fatality Review Program call 1-800-487-1626 or write to State Technical Assistance Team, PO Box 88, Jefferson City, Missouri 65103-0088.